The Lumberman

AUGUST, 1956

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Forest Genetics Develops Better Trees From Better Seed.... Page 72

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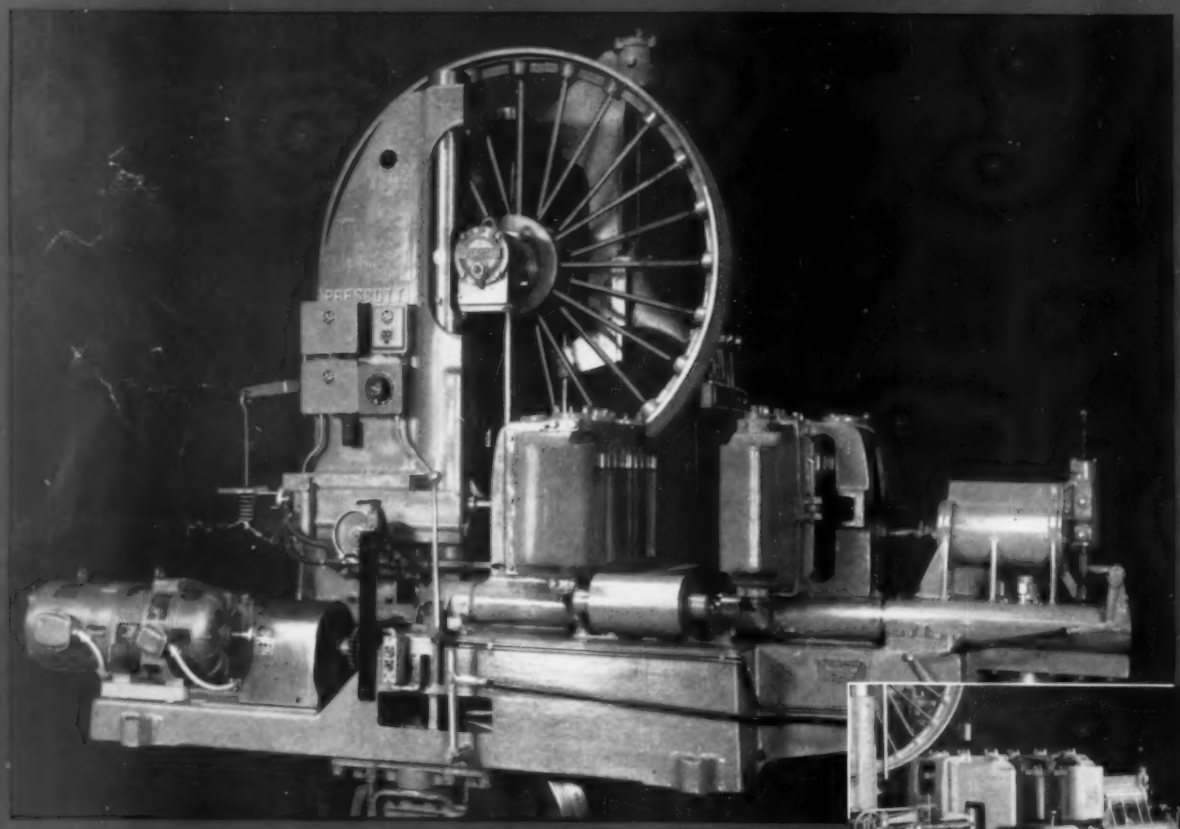
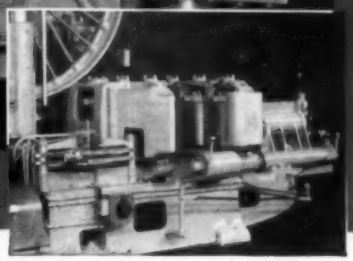




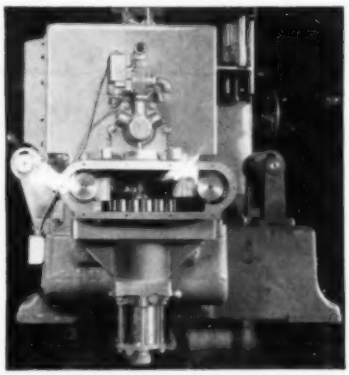
Heavy-Duty Feedworks — safe, vibrationless, extremely compact and precisely accurate. Eliminates wane and scant sawing.

PRESCOTT *vertical resaws...for the profitable production of more saleable lumber per log*

Increase your mill's output and reduce your operating expenses by installing a Prescott Vertical Resaw to get *all* the lumber out of *every* log. Precise mechanical accuracy gives you much better grade recovery — better sawing in all grades — and a high volume of smooth, straight, saleable lumber. Prescott Vertical Resaws minimize waste — practically eliminate downtime — deliver efficient, day-after-day performance for years — and return a greater net profit to you.

Here's how they do it — some of the major features of Prescott Vertical Resaws, combining the latest advances in resaw engineering and basic service-proved Prescott designs:

- Practical, Heavy-Duty Sizes — 5-6-7 Foot
- One-Piece Vibrationless Base
- Perfectly Balanced Wheels and Shafts
- Self-Aligning Roller Bearings
- Simplified, Ultra-Sensitive Knife-Edge Straining Device
- Compact, Heavy-Duty Feedworks System
- Continuously Variable Feedworks Drive
- Pre-Set or Lever Air Setworks
- Side Sawing and Self-Centering — Instantly Changeable
- Completely Self-Contained



Double Rack and Pinion Combination Setworks — spring-proof and instantly changeable from side sawing to self-centering.

New . . . Illustrated Literature containing complete technical data and detailed specifications is now available. Call, wire or write for this comprehensive material on Prescott Vertical Resaws or the services of one of Prescott's experienced sawmill engineers.

For Profitable Sawmill Operation... **SPECIFY**

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HIGH EFFICIENCY, HEAVY-DUTY SAWMILL MACHINERY

THE PRESCOTT COMPANY, *Menominee, Mich.*

OVER 10,000 BOARD FEET PER LOAD---

OVER MOUNTAIN ROADS ALL YEAR ROUND!

ON THE EDGE OF THE SNOW LINE of Cascade Range, Oregon, Booth Kelly Lumber Company cuts and hauls out logs all year long. From landing to reload pond is a 35-minute, 4¾ mile haul—over twisting, rocky roads at 5,000-foot elevations. Average loads are 10,300 board feet, mostly Douglas Fir—and Goodyear job-proved Hard Rock Lug and Hard Rock Rib are the tires chosen to keep this Show on the Road.

NOW IN 3-T NYLON CORD —*TUBELESS* OR TUBE-TYPE!

Now, Goodyear 3-T Nylon Cord

TUBELESS TIRES

END TUBE AND FLAP TROUBLES FOREVER!

Now you can add TUBELESS savings to the advantages of Goodyear design and Goodyear exclusive 3-T Nylon Cord!

For Goodyear TUBELESS tires end tube and flap troubles, end tube replacement, weight is reduced—mounting of all sizes is quick and simple—and many repairs are simpler than ever before! These TUBELESS tires run cooler and injuries are so easy to detect that blowouts are virtually things of the past!

Goodyear TUBELESS tires and rims are standard (or can be specified) on any size original equipment. For moneysaving change-over of present equipment, simply contact a Goodyear dealer. Goodyear, Truck Tire Dept., Akron 16, Ohio.

Look for this nearby Goodyear dealer sign for better tire values—better tire care.

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MORE TONS ARE HAULED ON GOODYEAR TRUCK TIRES THAN ON ANY OTHER KIND

Road Lug—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

Takes more than Boulders to stop "BIG RED"

it pays *All-Ways* to own TD-24s

J. W. Briggs, Bend, Oregon is constructing 4 miles of mountain road into virgin timber area for the Bureau of Public Roads, which includes moving 180,000 cubic yards of material (35% rock).

Richard Mott, TD-24 operator says, "This is one rough job, but this TD-24 can handle it. Our only lost time has been to tighten bolts that work loose from the constant rough use or to straighten dents from falling rocks. The new seat and fine visibility give me a good view of the blade, I can see easy what either point is doing."

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IH CONSTRUCTION AND LOGGING TRACTORS • HOUGH PAYLOADERS • BERGER DONKEYS
OTHER LOGGING AND CONSTRUCTION EQUIPMENT

Our Cover Picture

A TREE IS BORN!

What kind of tree will it be 50 or 100 years from today? Forest industries, in cooperation with federal and state agencies, are investing large amounts of time and money to improve the quality of trees being grown, particularly on large scale reforestation projects. Forest genetics, reviewed in this issue, is the science which promises help to the tree farmer. (Photo: Washington Division of Forestry.)

Industry Meetings

September

Western Pine Assoc., Semi-annual meeting, Multnomah Hotel, Portland, Ore., Sept. 12-14.

Hoo, Hoo, 65th Int'l convention, Fairmont Hotel, San Francisco, Sept. 18-20.

Forest Products Research Society, Joint Meeting, Inland Empire and Pacific NW Sections, Lewiston, Idaho, Sept. 24-25.

October

Canadian Institute of Forestry, annual meeting, Chicoutimi, Que., Oct. 4-6.

Society of American Foresters, annual national meeting, Memphis, Tenn., Oct. 14-17.

November

Washington State Forestry Conference, Chamber of Commerce Bldg., Seattle, Nov. 2.

National Lumber Mfrs. Assoc., annual meeting, Shoreham hotel, Washington, D. C., Nov. 8-10.

Pacific Logging Congress, St. Francis Hotel, San Francisco, Calif., Nov. 12-14.

December

Western Forestry & Conservation Assoc., Empress Hotel, Victoria, B. C., Dec. 5-7.

March, 1957

Southern Forestry Conference, Dinkler-Plaza Hotel, Atlanta, Ga., March 14-15.

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THE Lumberman

The Production Journal of the Forest Products Industries Since 1889

AUGUST, 1956 VOLUME 83, NUMBER 9

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CAPACITIES... • 3000 Lbs. • 4000 Lbs. • 5000 Lbs.

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• "Styled by Dreyfuss" means each truck is designed to look good — it also means each is "human engineered" to give the operator: Greater comfort, better visibility, greater driving ease, better position on truck, less driving fatigue, greater ease in mounting and dismounting, simplified control arrangement, and many other factors that enable him to get *more* work done faster, at less cost.

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HYSTER 50
5000 Lbs. Capacity
At 24" Load Center
(Overhead guard optional)

Industry's Most Modern Lift Trucks!

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Hyster's concept of lift truck design and styling is often copied, never excelled.

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THERE'S PROFIT IN
HYSTER POWER

FAST at the pond...

FAST in the woods!

HERE is a truck mounted Northwest Model 41. If you've ever been on a 41 you know it's a smooth operating rig—fast, well-balanced, capable of high output. Mounted on a truck it brings you the flexibility that rubber tires can bring.

Working for its owner, Sid Corbett of Mollala, Oregon, it is handling water-soaked logs that run up to 4000 bd. ft. and weigh 10 lbs. or more to the foot.

Northwests are real producers. Just compare the outputs of Northwests with that of other equipment. They have the advantages that assure consistently high output!

A wide choice of boom hoist equipment assures meeting any hoisting problem. Rugged construction is suited to the woods and its modern, compact design permits it to get in and out of places where more unwieldly units are a problem.

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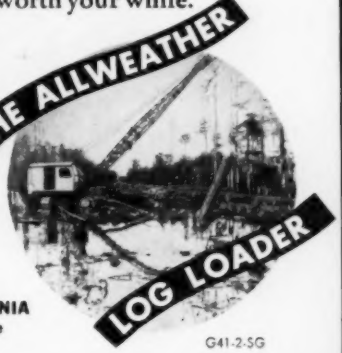

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POWER

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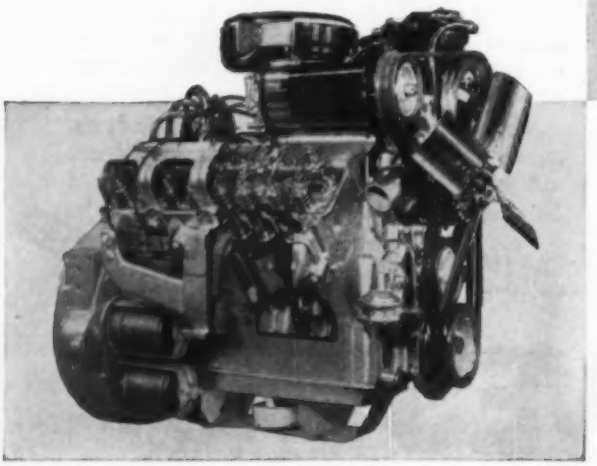
that can take it in the tall timber!

Reos load to the last pole and have the speed to make more trips per day. Log-haulers have found that Reos are *faster and more economical* than any other trucks in the woods—*and they stay out of the shop longer, too!*

Reo "Big Vs", with their amazing 220 hp Gold Comet engines, have the extra power essential for logging operations. Power that makes hauling full loads easy on hilly, twisty, lumbering roads. Extra power too, for the speed to make more round trips for extra profits. And Reo owner reports show Reo operators averaging nearly *twice* the gas mileage received from trucks of other makes on the same job.

From their double side-rail frame construction to their wide, heavy-duty front axles, rugged Reo tandems are 100% truck-built. Reo Gold Comet engines are all-truck built, too, and are backed by *100,000 mile or 1 year warranty* . . . your assurance of performance on *your* job. Reo on or off-highway tandems range to 78,000 pounds GCW.

See your Reo Branch or Distributor today about an on-the-job demonstration.



Reo Short-Stroke, Wet-Sleeve Gold Comet engines from 100 hp Six to 220 hp V-8—Gas or LP-Gas . . . up to 35% more efficient than the industry average. Also, 175 hp Cummins Turbodiesels.

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Behind a REO "BIG V"

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With Firestone NYLON TIRES

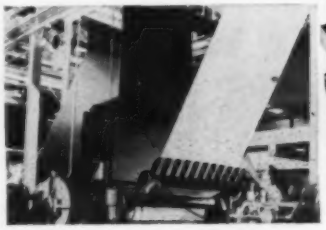
Firestone Nylon Logging Tires are built to stand up and take it in the toughest logging service. They reduce your tire costs because they cut the downtime that results from cuts, snags, impact breaks and highway heat.

Firestone Nylon Logging Tires have extra deep treads to give more traction power on the haul road and long, dependable mileage on the highway. Extra nylon tread plies absorb shock and give maximum protection against impact breaks. The sidewalls are double thick to give added protection against cuts and snags.

Get Firestone Nylon Tires for your most severe operating conditions. You'll find they will cut your tire cost with longer service and less downtime.

WHEN ORDERING NEW EQUIPMENT, SPECIFY FIRESTONE TIRES

A new multi-million dollar Firestone factory combines the famous Firestone Gum-Dipping process with Safety-Tensioning, a new Firestone process which takes the stretch out of truck tire cords. Firestone Safety-Tensioned *Gum-Dipped* cord bodies eliminate tire growth and tread cracking, resist impact breaks, give longer tire life and more money-saving retreads.



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Grind fast • Grind cool with the 32 ALUNDUM* G BOND combination

...the cost-cutting "TOUCH of GOLD" *team*

Here's why 32 ALUNDUM abrasive has no equal for sharpening your high speed steel saws, knives and cutterheads:

By an exclusive Norton process, each grain of 32 ALUNDUM abrasive is formed into a single crystal, with many sharp points all over its surface. Also, 32 ALUNDUM abrasive is over 99% fused alumina — purest of all abrasives.

And here's why the G Bond is the most efficient vitrified bond ever developed:

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Results: 32 ALUNDUM G Bond wheels cut much faster, freer and cooler, with fewer dressings and longer wheel life. In your sharpening operations this means top protection for your high speed steels against heat damage . . . better performance and longer service life from your knives, saws and cutters . . . and sharpening costs reduced to the lowest.

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for practical aid in selecting Norton wheels that will add the profit-boosting "Touch of Gold" to your sharpening operations. Ask him for Catalog 1052 or write to NORTON COMPANY, Worcester 6, Mass. Distributors in all industrial areas, listed under "Grinding Wheels" in your phone directory, yellow pages. Behr-Manning, Troy, N. Y., division of Norton Company. *Export:* Norton Behr-Manning Overseas Incorporated, Worcester 6, Massachusetts.

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to make your products better

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Sharpening Stones • Pressure-Sensitive Tapes

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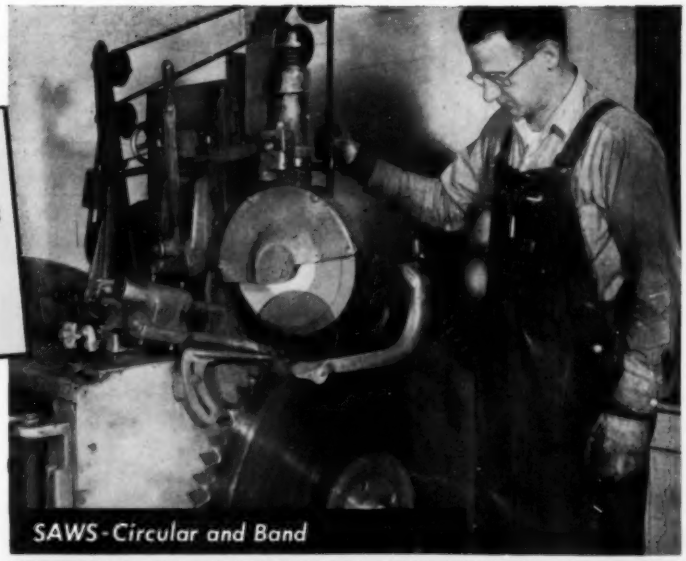
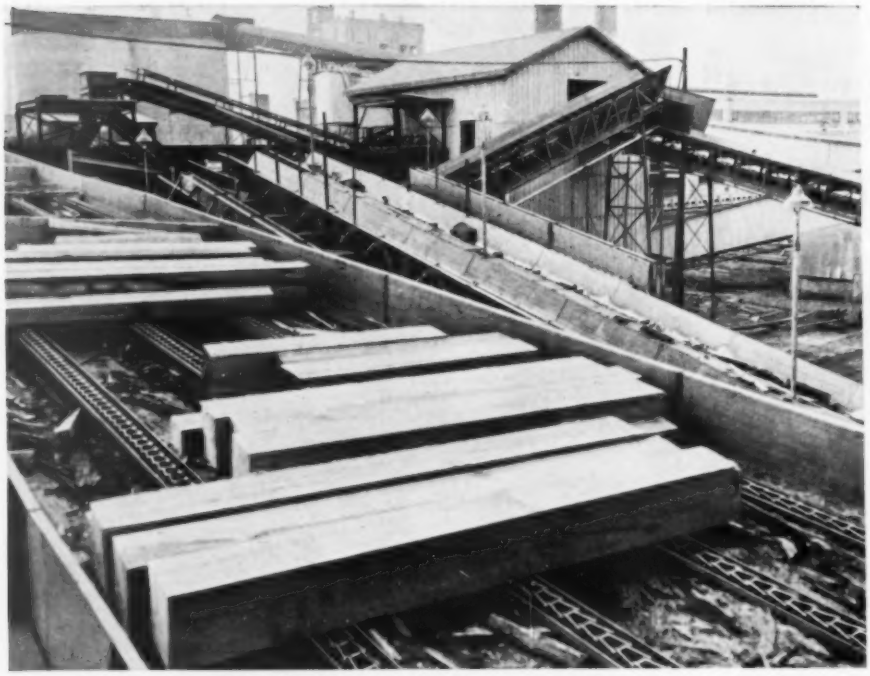


SAWS - Circular and Band

KNIVES

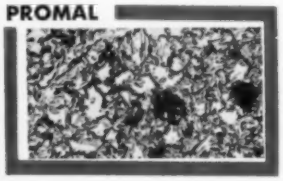
CUTTERHEADS

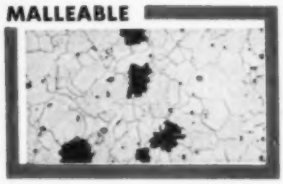
Where conveyors must resist shock loads and abrasive wear, modern mills specify PROMAL chain



Link-Belt Class H Promal chain carries cants to chipping machine at kraft pulp mill.

Microphotos show the difference between ordinary malleable iron (bottom) and Promal. White areas represent soft metal. The black network structure indicates stronger, stiffer material, which acts as a reinforcement, preventing distortion under load and strengthening the material.





Class H pintle chain
Class C combination chain
Looking for the BEST chain for a specific need?
LINK-BELT makes the complete line
Roller-Top chain
Class H drag chain

LINK-BELT

CHAINS AND SPROCKETS

Promal is a stronger, longer-wearing metal developed by LINK-BELT

WHEREVER you can economize by reducing conveyor shutdowns and minimizing replacements, it's worth your while to specifically request Promal chains. This specially-treated malleable iron is actually transformed into a metal of radically different physical properties, among them greater ultimate strength... higher yield point... exceptional fatigue resistance and a remarkable capacity to withstand abrasive wear.

Promal is far more than a partially annealed or skin-hardened iron. It maintains its properties permanently because of its uniform structure throughout. For unusual abrasive conditions Promal chain may be furnished with file-hard surfaces. In sawmill applications—under continuous impact loads and abrasion—Promal means longer service, lower conveying costs.

The complete Link-Belt line includes cast, combination, forged and fabricated chains plus roller and silent chains. Also, a full selection of attachments permits the right arrangement to meet your needs exactly. Call your nearest Link-Belt office for a recommendation, or see your authorized stock-carrying distributor.

LINK-BELT COMPANY: Plants, Sales Offices and Factory Branch Stores at San Francisco 24, Los Angeles 33, Seattle 4. Sales Offices and Factory Branch Stores at Portland 10, Spokane 10, Oakland 7, Salt Lake City 1. Stock Carrying Distributors in Principal Areas. 13.093-P

4 more lumber companies choose International® Power Units

...custom-engineered to fit your logging power needs!

More and more lumber companies are choosing International power units because of these advantages: (1) wide choice of combinations and sizes for many logging equipment applications; (2) adaptation of performance characteristics to match special applications; and (3) built-in long life, dependability, and low cost operation from 55 years' engine-building experience.

When you specify International power units for new or existing equipment, you get these specific design features as well. In International diesels for example, you get fast, any-weather, low-compression, gasoline conversion starting; non-fouling, tinker-free, clean-burning fuel injection and combustion system: and new gear-driven balancers in the 4-cylinder UD-14A and UD-350 diesel engines for "6-cylinder" smoothness and performance.

In addition, International diesel engines give you rifle-drilled passageways for "special delivery" of oil to every friction point; full-pressure lubrication with full-flow filtration; full-length water jackets for uniform, hot-spot-free cooling, and many other International features which add up to dependable, low cost operation and long life.

See your International Power Unit Distributor or Dealer now if you're planning a new equipment purchase or if you're repowering your present equipment. His complete power analysis, help in selection, and installation service will save you time and money... assure you of profitable International diesel or carbureted power for a long time to come.

INTERNATIONAL® CONSTRUCTION EQUIPMENT

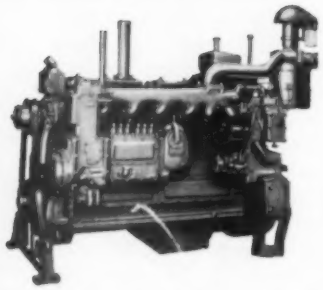
International Harvester Company
180 North Michigan Avenue, Chicago 1, Illinois

CHOOSE FROM 17 HEAVY-DUTY INTERNATIONAL DIESEL AND CARBURETED ENGINES—FROM 17 TO 214 HP.

See you at the **ROAD SHOW** **CHICAGO** Jan. 28-Feb. 2, 1957

A COMPLETE POWER PACKAGE INCLUDING: Crawler, Wheel, and Pipe-Boom Tractors... Self-Propelled Scrapers and Bottom-Dumps... Tractor and Rubber-Tired Loaders... Off Highway Trucks... Diesel and Carbureted Engines... Motor Trucks.

Helean relies on Caterpillar equipment for money-making production. Besides the D318 in this loader, the outfit has a D318 in an older 22-B, a D311 in a light plant and four Cat Diesel Tractors—three D8s and a D7.



4 years of trouble-free performance with CAT* power

That was Helean Logging Company's experience with a D318 in its older 22-B. That's why the company specified another D318 for its second loader!

On the job, where results are the true measure of an engine's ability, you'll find that Caterpillar Diesels deliver outstanding performance in all types of logging equipment. Consider the experience of the Helean Logging Company, Missoula, Montana. Partner B. J. Helean says: "The D318 in our older 22-B has worked steadily for four years. We've never had a breakdown with it. Recently we took it down for an overhaul. When we 'miked' the crankshaft, it showed no wear at all."

On the basis of this performance, Helean specified another D318 for its second 22-B, pictured here loading logs on the company's Granite-Creek show. Working eight hours a day, the unit keeps five trucks busy hauling ponderosa pine, Douglas fir, larch and spruce in lengths of 32 feet and shorter. Daily production: 80,000 to 90,000 bd. ft.

Modern heavy-duty Cat Diesels range up to 650 HP (maximum output capacity), so there's one that exactly meets your needs. They feature four-cycle design, which permits a smooth, effective power stroke and more efficient utilization of power. The fuel system requires no adjusting. There are no cylinder ports or air boxes to clean as in two-cycle units. And they use low-cost No. 2 furnace oil without fouling for a three-way saving—cheaper fuel, less of it and minimum maintenance.

Your Caterpillar Dealer backs you with prompt service whenever and wherever it's needed. He knows logging equipment. Ask him to *show* you how heavy-duty Cat power can step up production and lower costs on your operation!

Caterpillar Tractor Co., San Francisco, Calif.; Peoria, Illinois, U. S. A.

CATERPILLAR*

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MODERN HEAVY-DUTY LOGGING POWER

The LUMBERMAN'S

LATE FOREST INDUSTRIES NEWS

These Are the Names in the News-

• Charles J. Short has been named Pacific Coast manager of the Evans Products Co. He has been in charge of the company's British Columbia activities. He is moving to Coos Bay, Ore. He succeeds Howard Garrison, who resigned several months ago.

• William R. Ganser, Jr., joined the staff of the American Institute of T.mber Construction June 25 as structural engineering assistant, according to Frank J. Hanrahan, executive vice president.

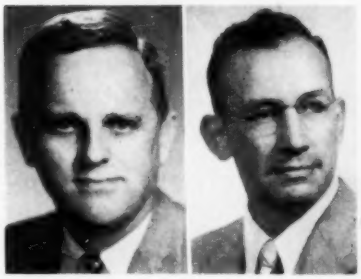
• Executives promoted at Potlatch Forests, Inc., Lewiston, Ida.: E. C. Rettig, formerly 1st assistant general manager, advanced to executive vice pres.; Roy Huffman, assistant gen. mgr., J. J. O'Connell, manager-lumber div., E. E. Cypert, manager-pulp & paper div., and George Rauch, manager-lands & logging div., named vice presidents. Robert W. Olin, formerly maintenance supt.-woods operations, has been named director of planning for Potlatch Forests, Inc. A. K. Hinckle is traffic manager for Potlatch Forests, Inc., having succeeded Walter Weisman, retired.

• Robert P. Conklin has been appointed vice-president in charge of the timber department, effective July 1, for Cascades Plywood Corp., Portland, Ore. Conklin's background includes logging engineering with Long-Bell Lumber Co., Crown Willamette Paper Co. and Weyerhaeuser Timber Co. He joined Cascades in 1951 and has been assistant to the president since that time.

• Southwest Lumber Mills, Inc., is studying the possibility of establishing a pulp and paper mill in Northeastern Arizona. First study is on the available water supply. Southwest has a big mill at McNary and another at Flagstaff. It has large timber holdings and recently acquired 87,000 acres of timber lands from the Aztec Land and Cattle Co., some of which has been sold other lumber companies in the area.

• The Yale University School of Forestry will join with the University of California to sponsor an industrial forestry seminar in Berkeley, California, in January 1957. Ernest T. F. Wohlenberg, Professor of Industrial Forestry at Yale, is director of the seminars.

• E. E. Rake, general manager for West Coast operations of City Lumber Co., of Bridgeport, Conn., announced appointment of Robert Ray Allan as sales manager in charge of rail sales.



• E. P. Stamm, vice president in charge of Crown Zellerbach Corporation's northwest timber operations, announces two management changes —the appointment of Clarence W. Richen (left) as his administrative assistant, and the promotion of George H. Schroeder (right) to chief forester, the position held by Mr. Richen prior to his new appointment. Both men will continue to make their headquarters in Portland.

• Britannia Mining & Smelting Co., one of British Columbia's largest mining operations, has launched what is believed to be the first reforestation program to be sponsored by a mining company in the province. It has planted some 15,000 Douglas fir seedlings on logged-off areas adjoining the road between Britannia Beach and Mount Shear.

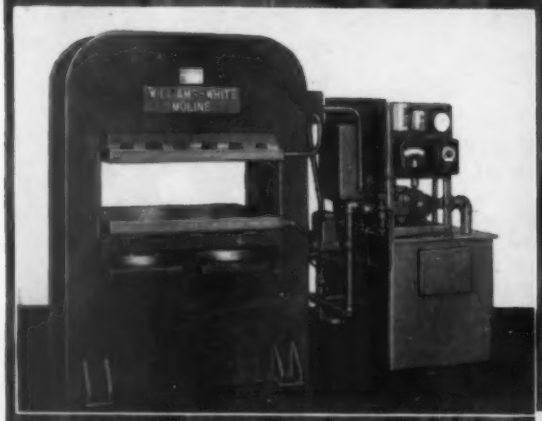
• H. A. Thomas, Jr., general manager, Fruit Growers Supply Co., Los Angeles, has announced the following personnel changes: C. H. Vincent is now resident manager of the Susanville operation. He will continue as resident manager of the Westwood operation until it has been disposed of. He succeeds M. E. Barron who becomes resident manager of the Hilt operation succeeding Herman Baumann. Baumann becomes director of timber and lands with headquarters in the Los Angeles office of the Company.

• R. O. Lee, formerly public relations supervisor and advertising manager of Washington-Idaho area of Pacific Telephone & Telegraph Co., has joined Georgia-Pacific Co. as director of public relations and advertising at G-P's headquarters office in Portland, Ore.

• Canada's railroads have been granted a 7% interim increase in freight rates, although the increase for lumber will be only 6%. At the annual meeting of the National American Wholesale Lumber Association in Vancouver, B. C., recently, President Philip Boyd said that the expected summer shortage of railway freight cars may temporarily hit the stability of the U. S. market for softwoods.

WILLIAMS-WHITE HOT or COLD

Laboratory & Production PRESSES



If your company is expanding or if you are "new comers" in the plywood, veneer or hardboard field, consider WILLIAMS-WHITE & CO. custom built hot or cold presses before you buy! Built to your exact requirements, WILLIAMS-WHITE presses represent the peak of up-to-date design and craftsmanship.

Your specifications as to capacity, plate size, number of openings, types of controls, etc., are built into each WILLIAMS-WHITE hot or cold press. They are available in column or A-frame construction, with steam, fluid or electrically heated plates.

Above is a typical WILLIAMS-WHITE laboratory press, of 90 tons capacity, plate size 38" x 24" and daylight opening 12 inches.

At right is a WILLIAMS-WHITE cold press of 575 tons capacity, with plate size 106" x 54" and adjustable daylight opening, 80 to 123 inches.

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GEORGE A. DAVIES, JR., MACH. CO.
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WILLIAMS-WHITE & Co.

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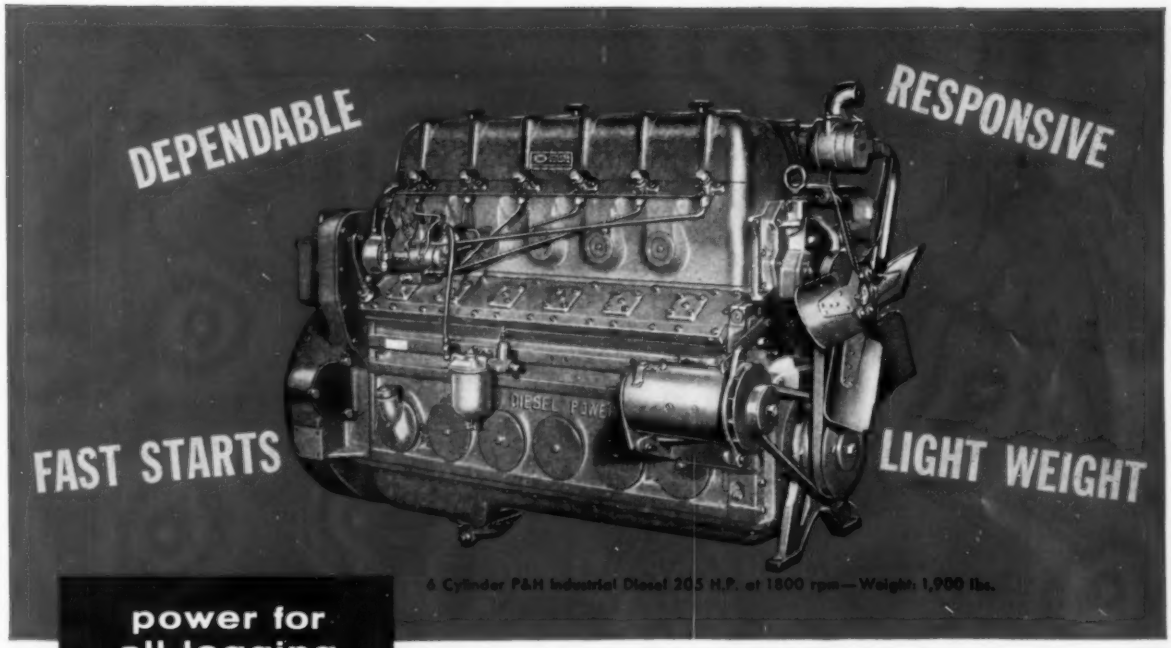
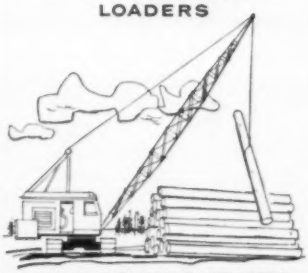
PRESSES • BULLDOZERS • BENDERS • PUNCHES • SHEARS



power for all logging operations

LOADERS


COLD DECKING CRANES

HAULERS

P&H DIESELS GIVE YOU DOUBLE VALUE

1. money making power...

To maintain steady logging production at a high profit you can't beat rugged P&H Diesels. No logging or road building job is too rough or tough for their power, punch and stamina. P&H Engines help you do more work easier, faster and at a lower cost.

With every downstroke of every piston a power stroke, a 2-cycle P&H Engine is a real power house! High line pull and excellent acceleration for record cycles in loading or cold decking. Lugging ability and plenty of it for skidding. High torque to pull truck cranes and crawlers through axle deep mud uphill.

2. money saving power...

P&H Diesels burn fewer gallons of low-cost fuel. Require less down-time for servicing and repair because P&H Diesels have 25% fewer parts and all wearing parts are interchangeable. Also, the "unitized" P&H power assembly is a big asset in the woods. After thousands of hours of performance, it makes possible complete overhaul of a P&H Engine in a matter of only hours.

Industrial and Automotive P&H Diesels in 2, 3, 4 and 6 cylinder models are rated from 40 to 280 H.P. In addition to powering logging equipment, they are also used extensively to supply power for sawmills, generators and pumps. It will pay you to investigate P&H Diesels' money-making and money-saving power.

For Modern Engineering, Look to

HARNISCHFEGER

P&H DIESEL ENGINE DIVISION
Crystal Lake, Illinois

Please send me complete information on P&H Diesel power for all logging and sawmill operations.

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Ever get fooled on "look-alikes"?

Take a part like your lube oil filter element. There may be substitutes that *look* like Caterpillar originals. But remember: CAT* elements filter every drop of oil before it reaches moving parts. They remove harmful particles, but they do *not* remove beneficial oil additives. And their special plastic-impregnated filtering material (accordion pleated to increase working surface) functions effectively through an entire oil change period. You're sure of longer engine life—less down time.

With substitute parts, can you be sure of anything?

Better see your Caterpillar Dealer's Parts Representative—and get Cat original parts every time.

Caterpillar Tractor Co., San Francisco, Calif.; Peoria, Illinois, U.S.A.

Cat lube oil filter elements are specifically matched to the requirements of Caterpillar Engines. Don't buy trouble — buy factory-tested, job-proven Cat filters. They *really* protect your engine.

CATERPILLAR*

*Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

• Charles Middleton, president and manager of Anderson & Middleton Forest Products Co., the Anderson & Middleton Logging Co., and manager of the Anderson & Middleton Lumber Co., Aberdeen, Wash., died suddenly at his Hoods Canal home July 4. He was 53 and was born in Aberdeen. A son, daughter, widow, sister and brother survive.

• As a new multi-million-dollar modernization and expansion program nears completion at Pope & Talbot, Inc.'s Port Gamble, Wash., operations, L. U. Hammerschmith steps down after many years as manager. He will remain at Port Gamble as advisor, and on June 1, 1957, he will retire. He is succeeded by assistant manager A. H. "Gus" Haley, immediate past chairman of the Olympic Logging Conference. Other recently announced supervisory appointments at Port Gamble include E. J. Rice, heading up the newly modernized sawmills, and E. V. Fant, who has charge of the new veneer mill. R. E. Rheinberger is in charge of forestry and tree farm operations.

• Kenneth M. Murdock is now acting secretary-manager of the Pacific Northwest Loggers Association, Seattle. Murdock succeeds long-time Sec.-Mgr. E. T. Clark, who died June 1. Darrell A. Warner has joined the Association as assistant to Murdock. He has resided in Seattle for 22 years and has an extensive background in production of logs and forest products.

• Construction of forest highways and forest access roads should be given a tremendous boost as a result of the passage of the Federal-aid highway and Highway Revenue acts. The acts authorize the expenditure of $57,000,000 in both 1957 and 1958 for forest highways, forest development roads and trails. Operators of logging trucks will pay one cent per gallon more gas and fuel oil taxes; 3 cents per pound more on tires; 2 to 3 percent increase in federal tax on new equipment; and a highway use tax of $1.50 per 1000 lbs., on vehicles over 26,000 lbs. The gasoline and fuel taxes will not apply on off-highway hauls or unregistered equipment. The tire tax will not apply to off-higway vehicles.

• Winton Lumber Co., Martell, Calif., has purchased the timber, woods operating facilities and plant of the Caldor Lumber Co., Diamond Springs, Calif. The purchasers will continue Caldor woods and plant operations as Winton Lumber Co., Diamond Springs Division. John Malmquist, formerly production foreman at Martell, has been promoted to general manager of the new division, and he will be assisted by J. J. Becker, and Warren Carleton, also of Martell. Francis Meyer, formerly road foreman at Martell, has been promoted to the post of woods boss at the new division. It is planned to cut about 96M′ daily on a one-shift basis, according to Winton's manager, R. S. Kearns. Woods equipment purchased included a Lima log loader, and six "Cat" D8s, among a number of other machines. Log hauling will be on a gyppo basis. The haul is about 35 miles to the woods.

Late Forest Industries News

• Donald H. Durham has been added to the Trade Promotion staff of the West Coast Lumbermen's Association, Portland, Oregon.

• George M. Syversen, general sales manager of Dant & Russell, Inc., announces the promotion of Walter J. Hewitt as manager of the New York metropolitan office at Hoboken, New Jersey.

• Robert W. Olin, director of planning for Potlatch Forests, Inc., chairman of Forest Industries Radio Communications, is newly elected chairman of the Operational Fixed Microwave Council, whose membership consists of users of mobile radio and microwave facilities.

• Wilbur J. Wright, vice president, M. B. Farrin Lumber Co., Cincinnati, Ohio, retired July 1, after more than fifty years in the lumber business. Mr. Wright's experience dates back to 1901 when he started working for Samuel H. Taft in the retail pine and hardwood business. He started with M. B. Farrin in 1908 as assistant to the lumber buyer. The past 30 years he has been vice president and director.

• Good news for the shingle industry is an announcement, by Washington state's insurance commissioner that insurance rates on buildings with wooden shingle roofs have been lowered to the same rates for metal, tile and other "approved" roofs. The commissioner found the higher rate unnecessary and discriminatory and ruled that there was lack of evidence that wooden shingles are less fireproof than the approved materials.

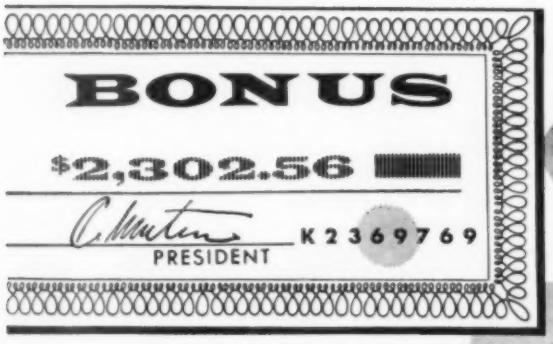
• British Columbia Lumber Manufacturers Association, Vancouver, B. C., has appointed F. S. ("Van") Perry on the staff of its Safety Department.

• T. Robert Sheldon, who formerly headed the log and timber department for United States Plywood Corp., Seattle, has joined Scott Paper Co., Everett, Wash., as assistant to Henry Dennis, assistant vice president in charge of timber. George Hartwell, personnel manager, timber division, also has been appointed an assistant to Mr. Dennis; he will continue to have responsibility for personnel, labor and safety activities in the timber division.

• E. C. (Ned) Stone, for many years manager of the Stimson Mill Co., Seattle, died July 6. Mr. Stone was active in industry affairs having been a trustee of the West Coast Lumbermen's Association. He was 66. He is survived by Mrs. Stone, three sisters and three brothers. He was a member of the B P O E.

• Paul Ellsworth Simpson, for sixteen years general manager of Fruit Growers Supply Co., died July 2, at the Hospital of the Good Samaritan in Los Angeles, Calif. He had been in ill health for some time. He retired a year ago.

Pay Yourself a BONUS of $2,302.56 a year!



What does a man cost you?

Based on the $1.00 per hour minimum wage, the 40-hour work-week and average unemployment taxes and workmen's insurance rates, the least you pay just one *man* in one year is $2,302.56. Thus any change you can make in your sawmill operation to permit elimination of one laborer means a payroll savings of at least $2,302.56.

WANNA BET?

Odds are that Corley can help you reduce your payroll by at least one man without loss of one foot in production. If you cut as much as 10,000 board feet a day and haven't made some recent drastic changes in your operation, it's a good bet you have too many men on your payroll — and a better bet that Corley can help you do something about it.

THE ANSWER

Maybe the answer to your problem lies in a Corley Hydraulic Log Turner and Loader. With this efficient machine your sawyer does all the loading and turning, eliminating the need of at least one man. Cost? Very little more than that man would cost you in a year.

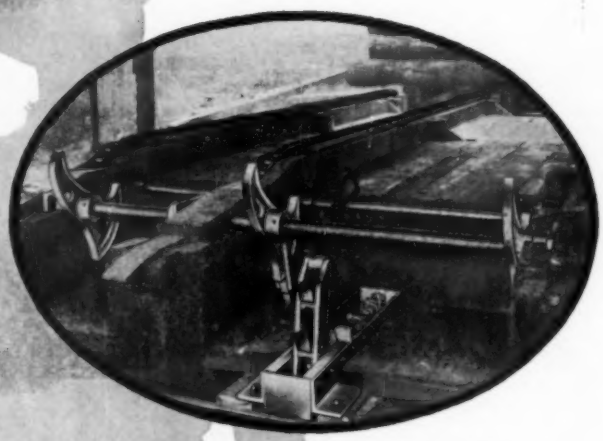
Maybe the answer is a Corley Linck Gangsaw. This is the machine now revolutionizing lumber production. You gain in far greater over-run, with unmatched accuracy. Power requirements are less than for either band or circular saw. The big PLUS, though, is in labor savings. With a Corley Linck installation . . . costing as little as $15,000 . . . the production of every man on the payroll can be doubled, tripled — or even better.

These are but two of the many Corley ways to replace manpower with machine-power. There are other Corley machines that insure your getting the maximum out of each labor dollar.

And remember, Corley machines work overtime without costing you time and a half.

The Time is NOW!

Because of increased labor rates, lumber production costs have reached a critical point. You owe it to yourself to examine every possibility for getting more out of the man-hours you pay for.



HYDRAULIC LOG TURNER

LINCK GANG SAW

Why not discuss your problem with a Corley representative?

Write, Wire or Phone

CORLEY MILLS CUT **ACCURATE** LUMBER

Corley MANUFACTURING CO.
CHATTANOOGA, TENNESSEE
Direct Factory Branches:
LITTLE ROCK, ARK. • PORTLAND, ORE.

Kenworth Engineers New Conventional Truck

Now in Production!

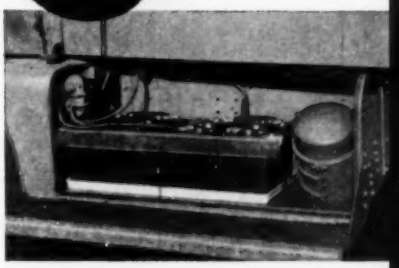
Shorter for more cube, lighter for more pay load, Kenworth's new drop-frame Conventional maintains all the traditional qualities of durability and performance for which Kenworth has long been famous, combined with new design refinements.

LIGHTER—when built with an aluminum frame, truck weight is cut 410 lbs. Steel construction saves 270 lbs.

SHORTER—Kenworth's new Conventional measures only 86⅜" from back of cab to center line of front axle.

FRONT SPRINGS are held at front end by a rubber-insulated steel pin and sleeve, with rubber vulcanized to pin and under compression inside sleeve—a unique and exclusive Kenworth feature. Other end is slipper-bracket-mounted with rubber and hardened steel wear plates. No lubrication is needed in either mounting. Front axle and springs are easily removed as an assembly. New construction results, not only in less maintenance, but in an easier ride and longer truck life.

DRIVE BRACKETS are shorter, stronger, more rugged throughout. Additional front frame rigidity results in even more positive shockless steering and smooth control.



Battery box is typical of improvements. Batteries are mounted in fiber glass tray and hold-down, impervious to acid. Notice accessibility of the oil filter.

RADIATOR now has a lighter weight, more serviceable grill, easily maintained—made in separately replaceable sections. Top and bottom tanks are cast aluminum; side members are extruded aluminum. Core is light, efficient. Connections are cast integrally with top and bottom tanks—all bolted-on connections have been eliminated.

FRONT FENDER clearance has been increased to accommodate larger diameter tires. Crown is wider, and method of securing fenders to frame has been strengthened. Available in fiber glass.

VISIBILITY has been improved because of shorter hood and offset rear window in cab directly behind driver.

There's more WORTH in KENWORTH

KENWORTH

TRUCKS ★ BUSES

FACTORY AND HOME OFFICE: SEATTLE, U. S. A. DISTRIBUTORS IN THE UNITED STATES AND MOST FOREIGN COUNTRIES

Can you stop this "phantom thief" from stealing engine life?

Yes...with the help of Shell men, techniques and an oil

Engineers knew *friction* caused gasoline and diesel engine wear. But Shell scientists suspected there was a hidden villain—even more destructive.

Years of research proved the "phantom thief" was *acid action,* result of harmful acids formed during the combustion cycle.

Shell Research men set out to develop an oil which could stop these harmful acids. The result—after extensive testing—was SHELL ROTELLA OIL—a tough, heavy-duty oil that adds years to gasoline and diesel engine life... an oil that can save hundreds of dollars in replacement costs.

Shell Rotella not only stops acid action, but keeps engines *clean* as well. A truly balanced oil, it also includes detergent-dispersant and oxidation inhibiting properties.

Rotella is just one of the fine products developed by Shell's 1500-man research team—a team with 25 years' experience in gasoline and lubrication problems.

A telephone call can put this team to work solving your lubrication problems. Call in your Shell representative today.

SHELL

SHELL ROTELLA OIL

• Georgia-Pacific Corp. has acquired the assets of Coos Bay Lumber Co. in a $70 million transaction, and other important corporate changes have occurred as a result of purchase of Dant & Russell, Inc. stock by Blyth & Co. More complete details in this issue; see page 129.

• Simpson Logging Co. interests have acquired the controling stock in the M & M Wood Working Co., Portland, Ore. Simpson has mills at Shelton, Wash., Everett, Wash., and Klamath and Arcata, Calif. M & M has mills in Oregon and California. Simpson offered M & M stockholders $35 per share for their stock. Stockholders voted overwhelmingly in favor of the plan. Largest stockholders were members of the Malarkey family who founded and developed the business. Simpson's various subsidiaries and divisions manufacture lumber, plywood, doors, softboard and pulp and paper.

• Potlatch Forests, Inc., Lewiston, Ida., is working out arrangements for acquiring assets of Deer Park Pine Industry, Inc., Deer Park, Wash. Officials of both firms expected details to be completed before the end of August. Deer Park's sawmills cut 45 million bd. ft. of lumber per year with sales of around $5 million. PFI operates several mills in Idaho plus a 525-ton per day pulp mill at Lewiston and has extensive timber holdings.

• W. W. ("Bill") Woodbridge, 72, former secretary-manager of the Red Cedar Shingle Bureau, died July 18 in Seattle. For many years before he joined the Shingle Bureau, Woodbridge was advertising manager of THE LUMBERMAN and traveled extensively throughout the country. For the period 1934-53 he headed the shingle trade association, retiring in 1953 because of illness. Survivors include his wife, Emma, three daughters and a son.

• Several changes in the Willamette Valley Lumber Co. organization, Dallas, Ore., were announced recently. Wm. Swindells, Jr., fills the new post of assistant to the resident manager. Ted Huntley, supt. of the sheathing mill, is promoted to resident manager of Willamette National Lumber Co., Foster, Ore., succeeding Mel Cutler, retired. Bob Hilliker, day shift foreman, replaces Huntley as sheathing supt.

• Wesley C. Nellist has been appointed manager of the land and timber department of United States Plywood Corp., Northwest Division, Seattle, announces O. Harry Schrader, Jr., general manager. He is a '49 logging engineering graduate of the U. of Wash. He has held several positions in logging engineering and construction at the Kosmos Timber Division, Kosmos, Wash., and for two years prior to his recent promotion was evaluation engineer in the timber dept. at the Seattle office. Nellis succeeds T. Robert Sheldon, who has joined the Scott Paper Co., Everett, Wash.

Late Forest Industries News

• Harbor Plywood Corporation, Aberdeen, Wash., has acquired the exclusive sale of the entire production of Stevenson Co-Ply Inc., Stevenson, Wash., a worker-owned cooperative, producing approximately three million sq. ft. per month $\frac{3}{8}$" basis, with some lumber core, rotary fir and knotty pine panels.

• Thomas McGrath, a veteran of 12 years experience in the wood industry at the age of 34, has joined the staff of the Hardwood Plywood Institute. He will be in charge of a sales engineering service for allied industry groups, a brand new function of the Institute's trade promotion program, directed by Richard D. Behm.

• Prominent in the forest industries for his part in the development and manufacture of machinery and equipment, Gerald Frink, 80, president of Washington Iron Works, Seattle, Wash., died July 12. Mr. Frink's father founded the iron works in 1881; young Gerald joined the firm following graduation from M.I.T. in 1900. He became president in 1914. He also was closely associated with Stetson-Ross Machine Co. during its reorganization in the '30's and was president from 1952 through fall of 1955. Company officials at the time of Hr. Frink's death were Francis G. Frink, vice pres.; James H. Frink, vice pres. & gen. mgr.; Philip F. Frink, secretary; and C. F. Bridges, treasurer.

• Evans Products Co., with headquarters in Plymouth, Mich., has doubled its west coast timber supply with acquisition of cutting rights on one-half billion board feet of timber in Oregon, announces E. S. Evans, Jr., president. The tract acquired was formerly part of the holdings of Coos Bay Lumber Co. Evans, one of the top 10 plywood producers, now controls 2.2 billion bd. ft. of Douglas fir in the U. S. and Canada.

• The New Mexico Timber Co., Albuquerque, N. Mex. in June shipped the one billionth foot of lumber manufactured by the firm. The company will keep and frame the actual billionth foot, but to compensate the customer who "loses" it, they sent him a one hundred dollar bill in addition to a special certificate.

• Faced with steadily rising costs, British Columbia's lumber industry must place more emphasis on selling than ever before, H. R. MacMillan, chairman of the finance Committee, MacMillan & Bloedel, told a metting of businessmen in Nanaimo. "We must make love to our customers all the year round," said Mr. MacMillan. "We must satisfy them with the exact grade they want and maintain that grade." After a boom in lumber that has prevailed for some 15 years, Mr. MacMillan said, it was apparent that while costs continued to climb the profit margin was narrowing.

2 NEW GERLINGER PRODUCTS FORK LIFT TRUCKS

On-the-job testing, over a period of months, has proved these 1957 Gerlinger Fork Lift Trucks are ready to meet any and all challenges supplied by Industry's heavy-duty handling needs.

"G" SERIES
in 6 capacities
12,000 LBS. • 15,000 LBS.
16,000 LBS. • 18,000 LBS.
20,000 LBS.
22,000 LBS.

"W" SERIES
in 6 capacities
12,000 LBS. • 15,000 LBS.
16,000 LBS. • 18,000 LBS.
20,000 LBS.
22,000 LBS.

The improved profile is new in the "G" Series, but the time-proved overall design of the entire Gerlinger Fork Lift Truck line is maintained. And the famous job-proved features are here, too, including the exclusive counter-active weight distribution and full-axle pivot permitting the shortest turning radius possible on such heavy equipment. Heavy-duty 20" truck wheels use standard truck-size pneumatic tires.

The new "W" Series is Gerlinger's answer to Industry's demands for heavy-duty materials handlers with wide axle front *and* back. "Tracking wheels"... rear steer wheels aligned with front drive wheels...are particularly advantageous in minimizing the drag in areas where gumbo and other adverse ground conditions prevail. All six wheels are standard 20" wheels, using industrial truck tires.

For full information and specifications on the "G" and "W", contact your nearest Gerlinger distributor or write:

GERLINGER CARRIER COMPANY
•
DALLAS, OREGON

THESE NEW MODELS INCORPORATE THE MANY EXCLUSIVE BUILT-IN FEATURES THAT MAKE GERLINGER THE OUTSTANDING FORK LIFT TRUCK ON THE MARKET.

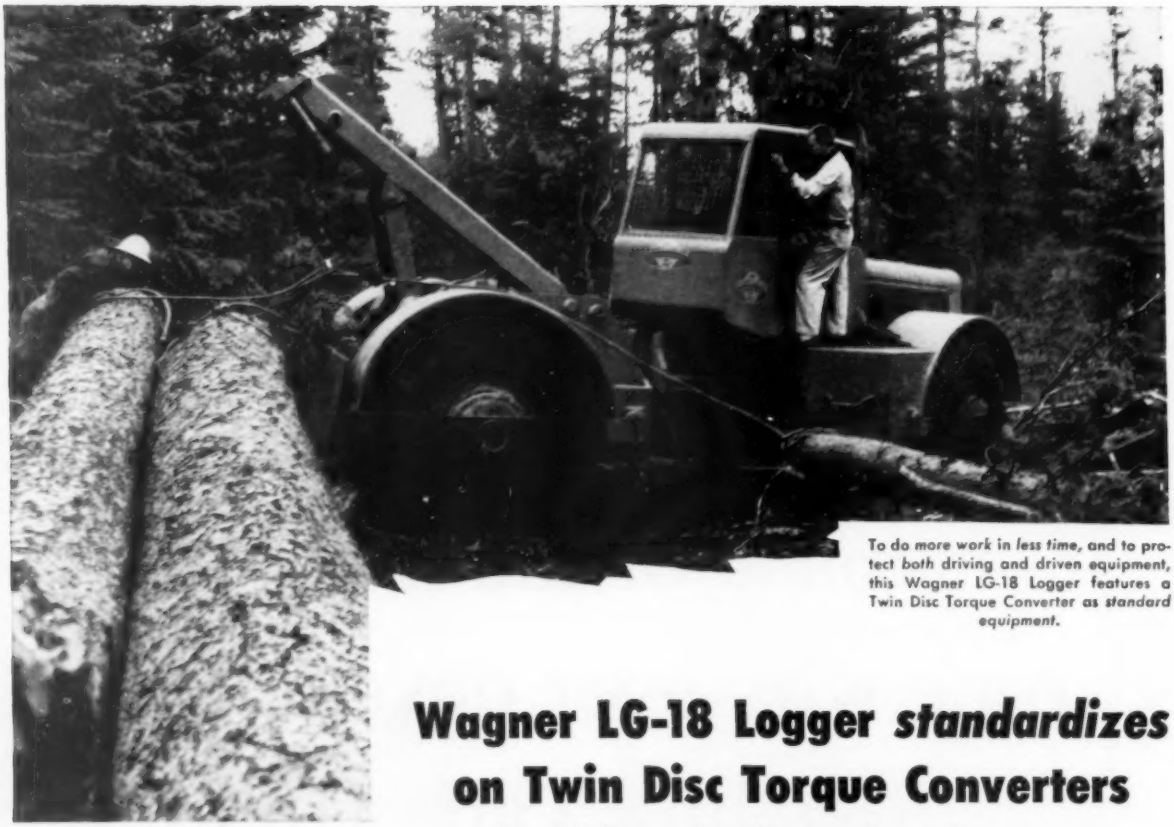
JOB PROVED GERLINGER PRODUCTS

G-622

toughest

Royal Blue rope
is made of the *toughest*
rope wire ever developed...
Roebling Type 1105

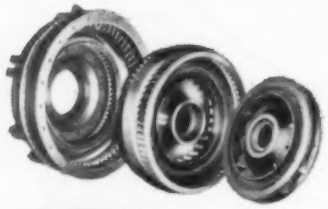
John A. Roebling's Sons Corporation, Trenton 2, N. J., Subsidiary of The Colorado Fuel and Iron Corporation BRANCHES: ATLANTA, 934 AVON AVE. • BOSTON, 51 SLEEPER ST. • CHICAGO, 5525 W. ROOSEVELT RD. • CINCINNATI, 2340 GLENDALE-MILFORD RD., EVENDALE • CLEVELAND, 13325 LAKEWOOD HEIGHTS BLVD. • DENVER, 4801 JACKSON ST. • DETROIT, 915 FISHER BLDG. • HOUSTON, 6216 NAVIGATION BLVD. • LOS ANGELES, 5340 E. HARBOR ST. • NEW YORK, 19 RECTOR ST. • ODESSA, TEXAS, 1920 E. 2ND ST. • PHILADELPHIA, 230 VINE ST • PITTSBURGH, 1723 HENRY W. OLIVER BLDG. • SAN FRANCISCO, 1740 17TH ST. • SEATTLE, 900 1ST AVE. S. • TULSA, 321 N. CHEYENNE ST • EXPORT SALES OFFICE, 19 RECTOR ST., NEW YORK 6.



To do *more work in less time*, and to protect *both* driving and driven equipment, this Wagner LG-18 Logger features a Twin Disc Torque Converter as *standard equipment.*

Wagner LG-18 Logger *standardizes* on Twin Disc Torque Converters

for high production and performance



TWIN DISC

TWIN DISC

Torque Converters

"Twin Disc Torque Converters are helping to build outstanding performance and production records for our LG-18 Logger," says Mr. W. H. Wagner, vice-president of Wagner Tractor, Inc., Portland, Ore., "... and that's why they're standard equipment on this model."

These fast, 200-hp, rubber-tired loggers are operating in the Northwest's rugged logging country, where the temperature varies from 50 below zero to 105 above . . . where elevations run from sea level to 4000 feet and higher . . . where adverse grades exceed 36%.

Wagner Tractor, Inc., has found the Twin Disc Torque Converter's smooth, powerful starting and acceleration characteristics ideal for heavy skid loads . . . even under conditions of ice and snow. Less strain and wear on the engine, final drive and other components, too . . . for the torque converter's fluid absorbs equipment-abusing shocks and sudden damaging stresses.

This is just one of many examples of how Twin Disc Torque Converters are playing a vital role in today's logging operations . . . cutting operating costs . . . boosting production . . . showing new and bigger profits every hour, every day.

Take advantage of the many profitable features of torque converter drives. Specify a Twin Disc Torque Converter in your next piece of logging equipment or when you repower your existing machinery.

For further information on Twin Disc Torque Converters, write today to Twin Disc Clutch Company, Hydraulic Division, Rockford, Ill.

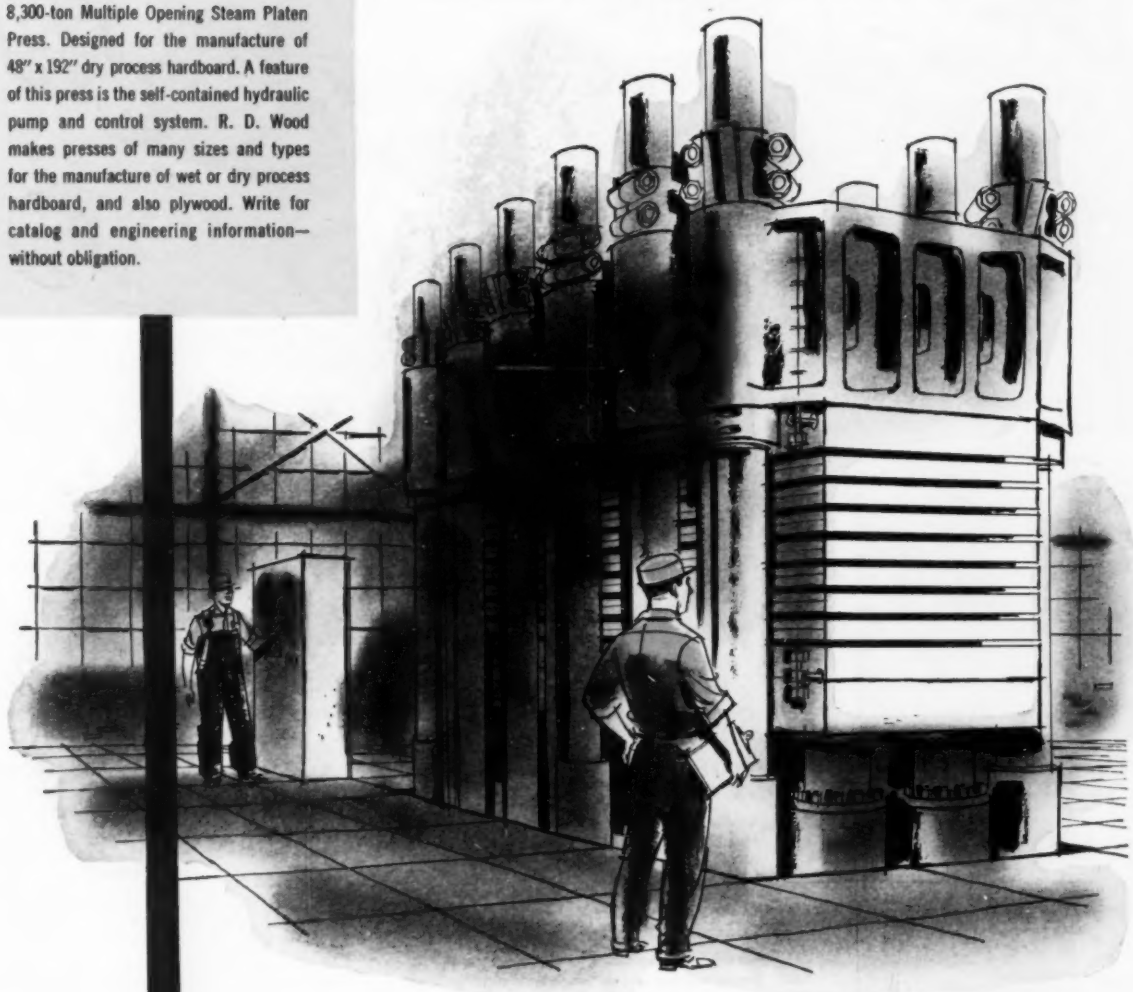
TWIN DISC CLUTCH COMPANY, Racine, Wisconsin (Hydraulic Division) Rockford, Illinois

8,300-ton Multiple Opening Steam Platen Press. Designed for the manufacture of 48" x 192" dry process hardboard. A feature of this press is the self-contained hydraulic pump and control system. R. D. Wood makes presses of many sizes and types for the manufacture of wet or dry process hardboard, and also plywood. Write for catalog and engineering information—without obligation.

NO! Quality is <u>not</u> a meaningless word!

You'll find proof of this in every R. D. Wood press.

Noah Webster's definition of quality—"distinctive trait, power, capacity or virtue; excellence of character"—suits Wood-made equipment exactly. Since 1803, every R. D. Wood press has been the product of scrupulous design, superior materials, painstaking workmanship. Inherent *quality* underlies the over-all efficiency, operating ease, and production economies you enjoy when you specify R. D. Wood.

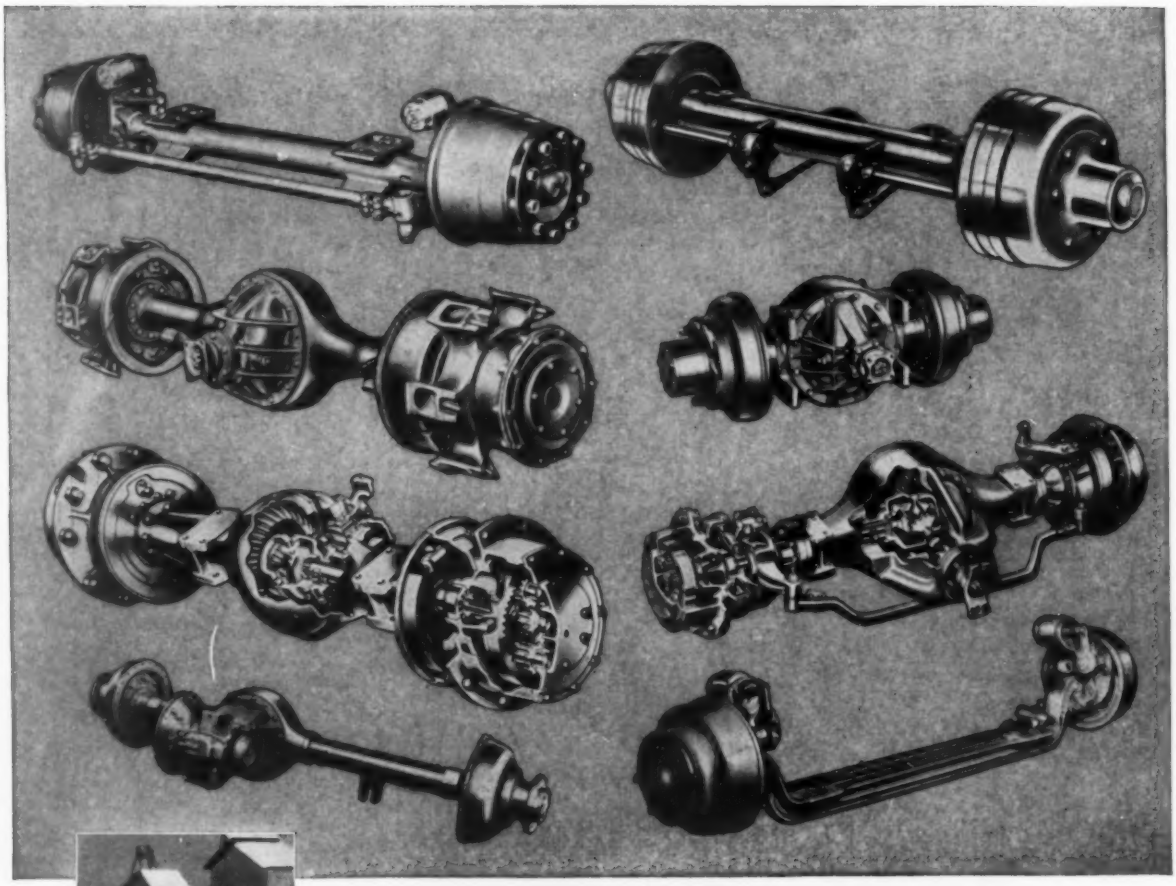


R. D. WOOD COMPANY

PUBLIC LEDGER BUILDING • PHILADELPHIA 5, PENNSYLVANIA

Representatives in Principal Cities

MAKERS OF HYDRAULIC PRESSES AND VALVES • FIRE HYDRANTS • CAST-IRON PIPE • GATE VALVES • GAS PRODUCERS • ACCUMULATORS



A flattering thing to say for *any* working vehicle

CLARK AXLES!

Champions, they say—athletes or revenue vehicles—are as young as their legs; which explains quickly why Clark-equipped vehicles grow old profitably——their "legs" stay young.

Clark builds axles for every type of commercial vehicle

- ***trucks and buses*—rugged, easy-to-steer front axles; driving axles, steering and non-steering**
- ***trailers*—light, rigid, tough axles of high carbon steel tubing; spindles forged integral**
- ***off-highway vehicles*—specially designed heavy-duty drive axles, steering and non-steering, for industrial machines; axle-transmission drive units for agricultural and industrial applications**
- ***fork-lift trucks*—axles designed for materials handling equipment**
- ***housing*—light, exceedingly strong, one-piece forging, heat-treated**

What is your need in that vital area of "durable legs?" In Clark axles you get the solid cash benefits of 50 years concentration on transmitting horsepower to wheels: efficiently, economically, durably.

CLARK® EQUIPMENT

A handy-sized Clark Products book is yours on request; indicates several reasons why leading manufacturers find it **good business to do business with CLARK.**

CLARK EQUIPMENT COMPANY, Buchanan, Michigan

OTHER PRODUCTS OF THE CLARK AUTOMOTIVE DIVISION—
TRANSMISSIONS • AXLE HOUSINGS • TRACTOR UNITS • TORCON TORQUE CONVERTERS ELECTRIC STEEL CASTINGS • GEARS and FORGINGS • FRONT and REAR AXLES for TRUCKS, BUSES and OFF-HIGHWAY EQUIPMENT.

EASY TO USE, TOO...

The most powerful one-man chain saw you can own

7 HORSEPOWER

29 POUNDS

This picture shows how easily one man and the new Homelite 7-29 can go anywhere, cut anything from the biggest timber to the smallest tree.

With 7 horsepower packed into only 29 pounds, the Homelite 7-29 has power enough to do a real production job in the heaviest timber. Yet it's easy to carry through the roughest terrain and light enough for limbing or cutting in *any* position. It starts fast and keeps producing under the most grueling weather conditions.

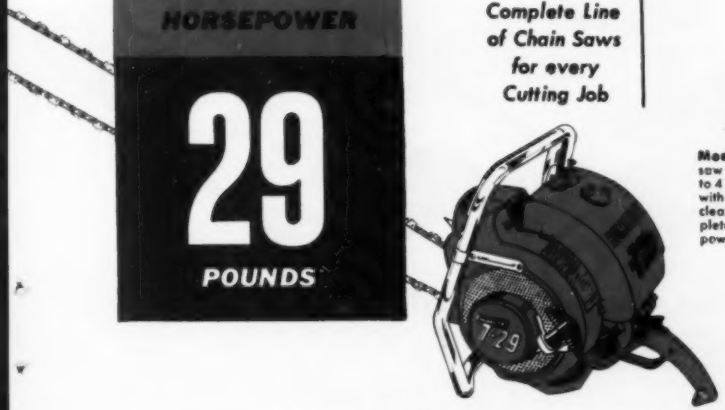
With the new Homelite 7-29 you can take down trees 10 feet in diameter fast . . . get more cutting with less fatigue. Ask your dealer for a free demonstration!

Complete Line of Chain Saws for every Cutting Job

Model 17 — an all-purpose saw that brings down trees up to 4 feet in diameter. Available with special brush cutting and clearing attachments for complete versatility. 3½ horsepower, 20 pounds.

Model 5-20 — All the versatility of the 17 with added power. 5 full horsepower — 20 pounds. Brings down trees up to 6 feet in diameter.

Model EZ — lightest, most powerful direct drive chain saw ever developed. Only 19 pounds, full 5 horsepower. Brings down trees up to 3 feet in diameter.



HOMELITE

A DIVISION OF TEXTRON INC.

4808 RIVERDALE AVENUE, PORT CHESTER, NEW YORK

Manufacturers of Carryable **PUMPS • GENERATORS • BLOWERS • CHAIN SAWS**

In Canada: Terry Machinery Co., Ltd.

ELECTRIC ELEPHANTS!

Powerful Tusks Clamp 25-Ton Loads...

LETOURNEAU LOG STACKERS

Safely, Easily Unload Trucks With One Bite

Steel forks, tusks, and boom that "come alive" at the touch of trigger-sensitive electric switches give you a mechanical "elephant" — and more — for quick, efficient mill-yard log handling . . . rain or shine! Although designed primarily to unload trucks and speed them on their way, the LeTourneau Log Stacker is a versatile yard-handling machine that keeps paying off in lower mill costs throughout the year. Features pictured on the opposite page give mill owners a single machine to do *ALL* these big jobs:

UNLOADING — Lean, steel forks reach under the logs. Powered tusks bind them securely, and then entire load is lifted from the truck, freeing it immediately for another trip. With logs safely clamped between tusks and forks, operator can back away, lower load, and tilt boom — all with electric controls to speed placement of logs at deck, pond or table.

CARRYING — LeTourneau Electric Wheels — each one a packaged prime mover — supply localized, controllable driving power inside rims by means of electric motor and gear reduction which are parts of every wheel. Electric wheel drive automatically proportions power to wheels with most traction, provides infinite control of speed and torque from zero to maximum wheel rpm. This provides sure-footed traction even in muddy, unimproved yards.

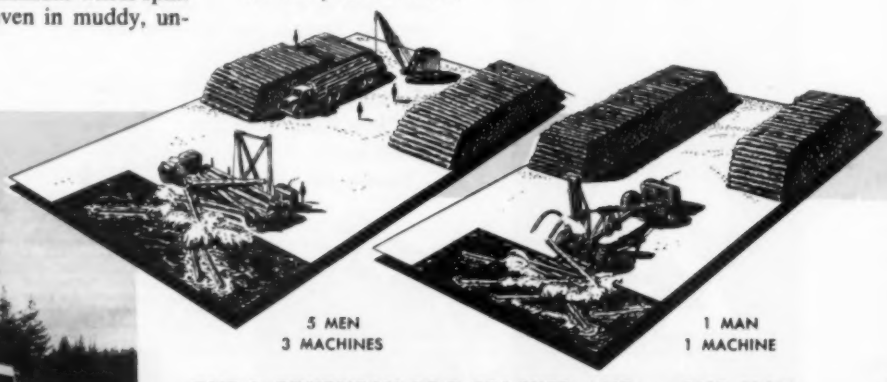
DECKING — Precise, powered steering puts Stacker flush up to deck. Hoist spots logs at exact height wanted. Live boom tilts forward, ready for operator to release powered tusks. Automatic kickers dislodge any logs that don't roll off.

DUMPING — At the edge of ponds, operator points forks at the water, then releases tusks and spills logs. For ground dispersal, he lowers forks, opens the tusks, and simply backs away.

SORTING — Stacker picks up one log or several from the ground, as desired. When logs are frozen down, tremendous traction of Electric Wheels and lifting power of forks quickly breaks them loose.

LOADING AT DECK — Powerful Stacker shoves forks deep into the deck . . . then operator lifts logs, clamps them securely with powered tusks, and in seconds is off for the pond or table.

This logger uses Stacker as a loader, too. Precise control of forks, boom quickly spots big logs on truck

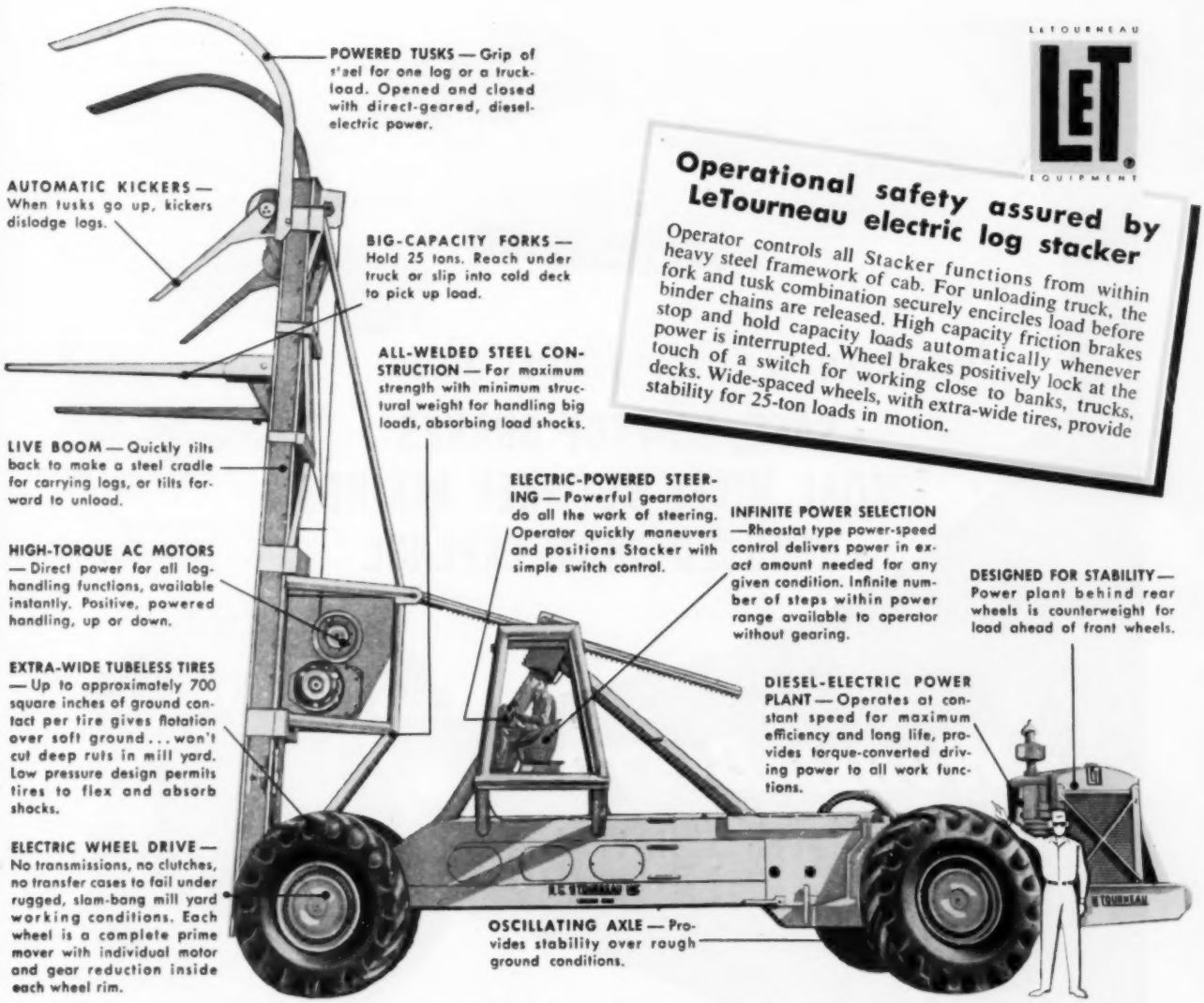


5 MEN
3 MACHINES

1 MAN
1 MACHINE

ONE LeTOURNEAU LOG STACKER AND . . . ONE MAN

replace five men, three machines. Shown here is just one application where time and costs are materially cut by use of Log Stacker. Similar savings are made in other types of yard operations. For instance, Stacker replaces entire yard rail system, or overhead cable system . . . eliminates intermediate handling when loading or unloading gondolas . . . permits solid decking, without aisles.


POWERED TUSKS — Grip of steel for one log or a truckload. Opened and closed with direct-geared, diesel-electric power.
AUTOMATIC KICKERS — When tusks go up, kickers dislodge logs.
BIG-CAPACITY FORKS — Hold 25 tons. Reach under truck or slip into cold deck to pick up load.
ALL-WELDED STEEL CONSTRUCTION — For maximum strength with minimum structural weight for handling big loads, absorbing load shocks.
LIVE BOOM — Quickly tilts back to make a steel cradle for carrying logs, or tilts forward to unload.
HIGH-TORQUE AC MOTORS — Direct power for all log-handling functions, available instantly. Positive, powered handling, up or down.
EXTRA-WIDE TUBELESS TIRES — Up to approximately 700 square inches of ground contact per tire gives flotation over soft ground... won't cut deep ruts in mill yard. Low pressure design permits tires to flex and absorb shocks.
ELECTRIC WHEEL DRIVE — No transmissions, no clutches, no transfer cases to fail under rugged, slam-bang mill yard working conditions. Each wheel is a complete prime mover with individual motor and gear reduction inside each wheel rim.
ELECTRIC-POWERED STEERING — Powerful gearmotors do all the work of steering. Operator quickly maneuvers and positions Stacker with simple switch control.
INFINITE POWER SELECTION —Rheostat type power-speed control delivers power in exact amount needed for any given condition. Infinite number of steps within power range available to operator without gearing.
DESIGNED FOR STABILITY — Power plant behind rear wheels is counterweight for load ahead of front wheels.
DIESEL-ELECTRIC POWER PLANT — Operates at constant speed for maximum efficiency and long life, provides torque-converted driving power to all work functions.
OSCILLATING AXLE — Provides stability over rough ground conditions.

LeTOURNEAU LET EQUIPMENT

Operational safety assured by LeTourneau electric log stacker

Operator controls all Stacker functions from within heavy steel framework of cab. For unloading truck, the fork and tusk combination securely encircles load before binder chains are released. High capacity friction brakes stop and hold capacity loads automatically whenever power is interrupted. Wheel brakes positively lock at the touch of a switch for working close to banks, trucks, decks. Wide-spaced wheels, with extra-wide tires, provide stability for 25-ton loads in motion.

Ask Your LeTourneau Distributor to show you all these features working.

LET EQUIPMENT

R.G. LETOURNEAU INC

GENERAL OFFICES: LONGVIEW, TEXAS

Distributors:

LOGGERS & MILL SUPPLY CO.
Highway 299
Arcata, California

PAUL DROSCHER SALES
2541 Angelo Avenue
Redding, California

LOGAN MAYHEW LTD.
547 West Sixth Avenue
Vancouver, B.C.

TOTEM EQUIPMENT CO.
3706 Airport Way
Seattle 4, Washington
E. 525 Trent
Spokane, Washington

Dust behind truck does not settle before it is completely unloaded and gone in this Stacker-equipped mill yard.

Entire truck-load of logs is placed in cold deck immediately by fast-working Electric Log Stacker.

If you are not served by one of the Distributors listed, get full information on LeTourneau Electric Log Stacker by mailing coupon

R. G. LeTOURNEAU, INC.
2548 So. MacArthur Blvd.
Longview, Texas

Tell me more about the LeTourneau Log Stacker.

Name_____ Title_____

Company_____

Address_____

City_____ State or Province_____

DL-120

leading timber fleets get

- **SAFE, NO-FADE BRAKES**
- **MORE MILES BETWEEN RELINES**
- **REDUCED DRUM EXPENSE**

Testimonial letters from these fleets available on request.

with

WORLD BESTOS LOGGERS' SPECIAL

...the brake block combination that's made for **BIG RIGS** doing **BIG JOBS!**

World Bestos LOGGERS' SPECIAL... using two high friction RED BLOCKS...the only brake block with a NO-FADE GUARANTEE

● Brake fade, short lining life and ruined brake drums can add thousands of dollars a year to logging costs. That's why so many successful fleet operators now insist on World Bestos LOGGERS' SPECIAL . . . the only brake block combination that *solves* these costly brake problems! Their experience proves conclusively that LOGGERS' SPECIAL with the exclusive NO-FADE GUARANTEE gives safer, more dependable stopping power under all conditions. Their records, covering millions of miles on the job, prove also that LOGGERS' SPECIAL delivers more miles between relines, reduces downtime for brake maintenance . . . actually pays for itself in savings on brake drums alone!

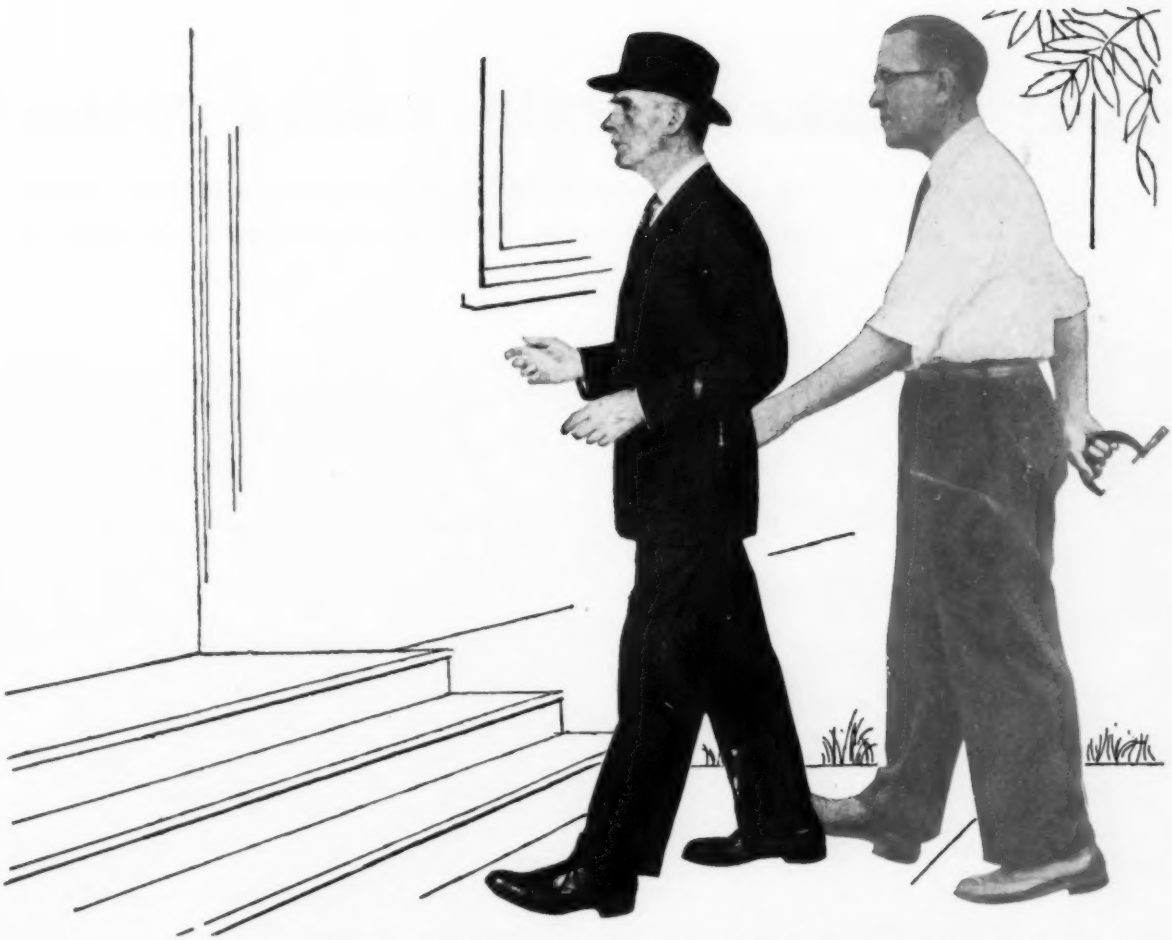
prove it for yourself!

Test LOGGERS' SPECIAL on your biggest, hardest-working rig. Compare stopping power, drum wear and per-mile operating cost with any brake blocks you are now using.

WORLD BESTOS • NEW CASTLE, INDIANA

For full information about LOGGERS' SPECIAL and other World Bestos Brake Blocks, contact one of these World Bestos Warehouses:

LOS ANGELES, Calif., A. H. Ross & Co., 843 S. San Pedro St.
SAN FRANCISCO, Calif., F. Somers Peterson, 524 Folsom St.
PORTLAND, Ore., Sparks-Wills, Inc., 511 S.E. Market St.
VANCOUVER, B.C., Western Equipment, Ltd., 102 Main St.



Your Wickwire Rope Distributor and our die maker... ready to serve you

This die maker—one of the skilled technicians responsible for the quality of our rope wire—is with your Wickwire Distributor every time he makes a call.

True, he's physically in our plant, working to tolerances of 1/10,000 of an inch as he fashions the super-hard carbide dies used to produce every foot of rope wire. But, whenever your Wickwire Distributor makes his call, he has the full assurance that *every* wire in the product is exactly the size it should be and has a smooth, silky surface finish. This careful attention helps assure a rope which will perform successfully.

It's just one more reason why your Wickwire Distributor knows he's got top-quality rope, slings and strand to sell . . . and that these products will serve you well.

CF&I WICKWIRE ROPE A CF&I PRODUCT

4083

A PRODUCT OF THE COLORADO FUEL AND IRON CORPORATION

"BUILT RUGGED TO STAND ROUGH GOING,"

says C. D. "Tony" Johns about his new D8 (Series E), bought as a result of his successful experience with two used D8s

C. D. "Tony" Johns, Cloverdale, California, has been building roads for 30 years. In that time, he has used all types of equipment. About 6 years ago, he bought a used CAT* D8 Tractor. Two years later, he traded it in for another used D8, which he recently replaced with this new one, equipped with No. 8S Bulldozer. Mr. Johns says: "I wouldn't buy anything else. There are less breakdowns and less down time than with any other make. Caterpillar equipment is built rugged to stand rough going."

In this picture, his new D8 is working on the last half mile of a 25-mile main haul road for an outfit logging redwood and fir southwest of Cloverdale. The D8 did a lot of pioneering, too, in shale and some hard rock. It's kept busy 8 hours a day, 6 days a week, about 10 months a year. Here are some advance-design features that enable it to turn out even *more* work at *lower* cost with *less* down time than its "older" brothers:

- **New heavy-duty 4-cycle engine delivers 191 HP at 1200 RPM.**
- **New oil clutch provides smoother performance and longer life.**
- **New 7-roller track frame gives better stability, flotation and ride.**
- **New more powerful starting engine with "in-seat" controls assures fast starts.**
- **New tapered hood provides better job visibility.**
- **New hydraulic booster steering boosts production with easier operation.**
- **New 118-gallon fuel tank cuts down frequency of refueling, for more time on the job.**

To meet your job needs, the new D8 is available with torque converter or direct drive. Your Caterpillar Dealer, a reliable source of information and service, will be glad to give you full facts about it. Name the date—he'll demonstrate!

Caterpillar Tractor Co., San Francisco, Calif.; Peoria, Ill., U. S. A.

CATERPILLAR*

*Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

USE CAT EQUIPMENT FOR MONEY-MAKING PRODUCTION

THE Lumberman

presents as Tall Timber..

O. W. "Jack" Frost . . . .

O. W. "JACK" FROST
Oregon Fibre Products

AS THIS "LITTLE GIANT" industry of fiber board and hardboard becomes better known and takes rightful place among the great American industries, men responsible for its growth and progress stand out. O. W. "Jack" Frost is such a man.

Jack—incidentally, all the boys in the Frost family were called "Jack"—has devoted his entire adult life of 33 years to the fiber board industry and during this time established himself as a leader throughout the field. During this time he has participated in various new developments, holds several patents on structural fiber board products and processes and since early 1955 has been general manager of the largest western producer of insulation board and one of two plants producing both hardboard and insulation board—Oregon Fibre Products Co., Pilot Rock, Ore.

He was born at Minneapolis, Minn. in 1901, attended primary and secondary schools there and subsequently obtained a BS degree at University of Minnesota's College of Forestry in 1923. Shortly later he went to work for Wood Conversion Co., at Cloquet, as a common laborer. Early experience with this organization included work on almost every production and mechanical application. Regarding the rigors of the experience and what it did for him, Mr. Frost says it's "the best graduate education a production man can have . . . too bad more college graduates will not do this."

The same year Jack affiliated with Wood Conversion the company started to make a hard-pressed wood-fiber board using the gelatinized wood fibers its binding agent. In 1925, after the early project proved impractical, production was diverted to insulation board. Later he became assistant mill superintendent and in 1933 was named mill superintendent. During the late twenties and early thirties he took active part in the early development of the plant and its products, including experimental work in wet-pressed hardboard in 1928-29-30.

IN 1936 HE JOINED United States Gypsum Co., Greenville, Miss. insulation and hardboard plant, there holding positions of mill superintendent and works manager. It was here he became particularly interested in hardboard and attached his future rather closely to that industry. The next move was to USG's Chicago headquarters in 1939 as supervisor of wood fiber research. In this capacity he concentrated largely on hardboard technology and insulation board product development until detached to work on engineering a new fiber board plant 1945-47.

Early the following year, in February 1948, Frost went to work for Forest Fiber Products Co. at Forest Grove, Ore., designing and supervising construction of the organization's wet-process hardboard plant. He staffed the plant and started production in May 1949; later, in June 1953, becoming general manager of operations and sales.

With his previous background and industrial understanding he guided this company toward new developments which had never before been done. Forest Fiber under his direction brought out the first tongue & groove paneling, the first hardboard made specifically for cupboard doors and door-stock use, and the first presealed tempered board.

In Forest Grove, as in other areas where Frost has resided, he became respected and influential in the community, participating in church and Boy Scout affairs. One of Jack's prized possessions is the Silver Beaver award received in recognition of his scouting accomplishments with boys in the community.

It was in April 1955 he affiliated with Oregon Fibre Products Co. as general manager, a modern plant using the rapid cycle steaming process which Jack Frost had a leading part in developing.

As stated by a former fellow workman, "Jack's great capacity for organization and his philosophy in dealing with people represent another article in themselves as his interests, duties, responsibilities have encompassed research, production, sales and all the other economics of manufacturing and selling. He has become respected by all of those who know him in the industry."

ONE OF THE SIGNIFICANT characteristics most people note in Jack Frost is the broad scope of his thinking, and the mature concept of his attitudes. His vision goes beyond the job, even beyond the company, beyond the industry to the problems of world economics and the industry's position in today's concept of free trade. This same broadness of vision he also practices in relationships with people about him. Wherever he has worked he has directed company interests to the betterment of the employes and the community.

In 1951 he instigated meetings of hardboard manufacturers to clarify hardboard specifications. These pioneer efforts subsequently resulted in establishing the Hardboard Assoc., now a functioning national organization headquartered in Chicago.

Jack married a Minnesota graduate who is as imbued with community spirit as he is. They have four children—a daughter and three sons.

Wood is the all-pervading material of Frost's life. Even when not professionally engaged in the actual process of taking it apart and putting it back together with desired built-in characteristics, he's apt to be working with wood from another approach—carpentering, his leading hobby. Interspersed with this and a lot of scouting comes a little fishing, hunting and gardening.

Tall Timber

Lumberman Advocates Timber Sale Revisions

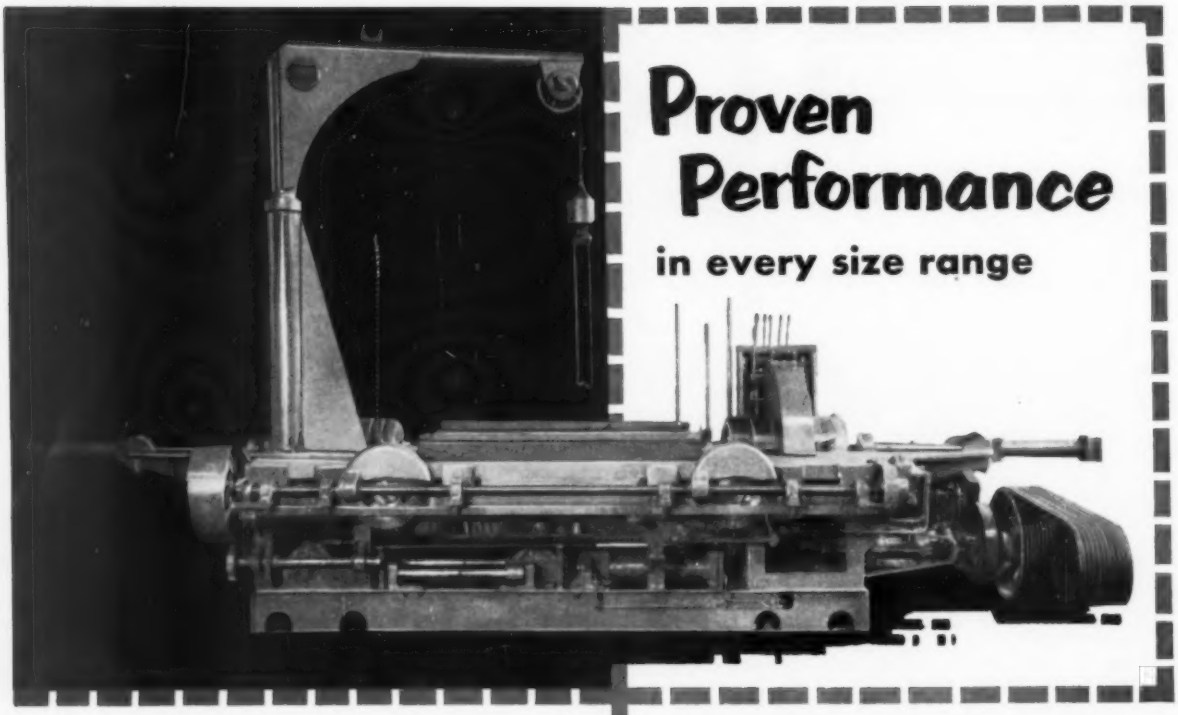
• Testifying before the Sloan Forestry Commission in Victoria, John Liersch, vice president of Powell River Co. in charge of timber and forestry, advocated adoption in British Columbia of the U. S. timber sales system. He said that such a system would be particularly desirable in some of the province's under-cut areas.

Instead of companies looking on their own initiative for timber stands, as is now being done in British Columbia, the provincial forest service should decide what areas it was going to put on the market and then notify prospective buyers, said Liersch, whose experience has been in logging operations on both sides of the border and who headed the school of forestry at University of B. C. before the war.

Powell River Co. in a separate brief supplementing one previously presented to the Commission, stressed need for developing the B. C. north coast forests, now being cut at only about 20% of the allowable, although some areas on Vancouver Island are being over-cut.

Correction on Strap Width

• An incorrect steel strapping width was inadvertently reported in the Unit Handling Review in the June issue of THE LUMBERMAN. On the opening page, p. 68, under the heading Stakeless Load Specifications, Item B, the strapping should be 1¼" instead of ¼".



Proven Performance

in every size range

Jackson

all-steel veneer

Lathes

Production- and precision-built by experts well versed in your requirements, Jackson lathes offer the finest machines you can buy for cutting veneer. Jackson lathes give you the best in design, close adjustments, trouble-free performance, interchangeability of parts. And only Jackson gives you a *standard four-point support to all frames.* Best of all, Jackson series #500 box frame back roll lathes are available in size ranges to fit any type operation. Most common sizes furnished range from 30" to 66" swing, knife lengths from 32" to 110". But Jackson will custom-tailor the lathes to suit *your* needs. Whatever your operation, Jackson has the lathe for *you.*

VENEER MACHINES DIVISION

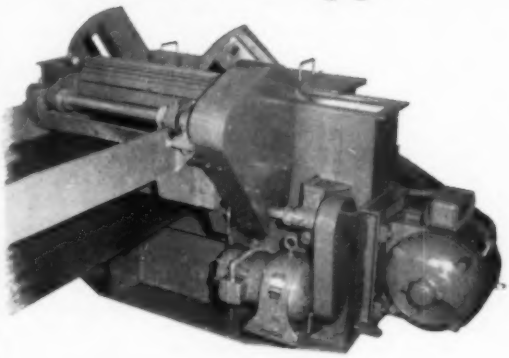
JACKSON INDUSTRIES INCORPORATED

Birmingham • Alabama

NEW FROM Jackson

ALL-STEEL

Veneer Chipper

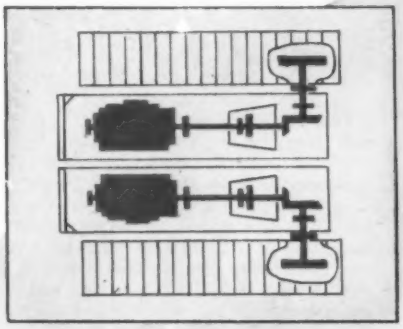


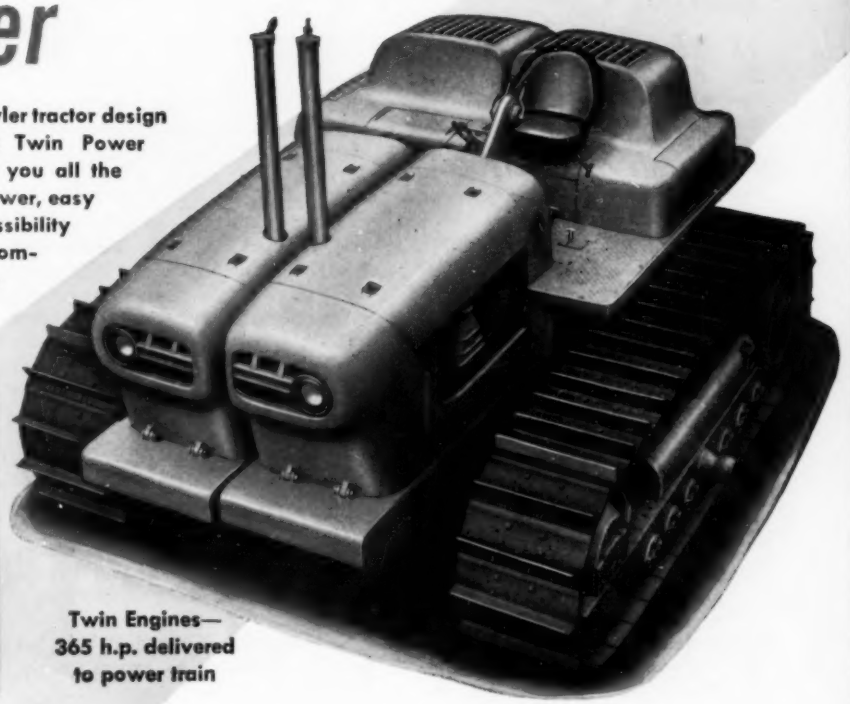
Don't waste that waste! Turn it to profit. Jackson's #60 all-steel veneer chipper provides you with the means of cashing in on this expanding market. It produces chips varying from 5/8" to 1¼" in length — the ideal size for paper mill and hardboard requirements. Numerous installations have proved that the Jackson #60 Veneer Chipper can *more than pay for itself in less than a year.* For complete information and specifications on all lathes and chippers write: Veneer Machines Division, Jackson Industries Incorporated, Drawer 591, Birmingham, Alabama.

Biggest Tractor News in Years...

the "Euc" TC-12 Twin Crawler

Here's a completely new concept of crawler tractor design and performance . . . the new TC-12 Twin Power Euclid. It's designed and built to give you all the features you want in a tractor—more power, easy operation, greater workability and accessibility for servicing . . . and all power train components are matched, with years of application in earth moving equipment.





Twin Engines—365 h.p. delivered to power train

SPECIFICATIONS

total h.p.—388 h.p. at rated speed	
available for tractive effort—365 h.p.	
speeds—3 speed ranges forward and reverse to 8.3 mph	
drawbar pull (bare tractor)—forward and reverse	54,000 lbs. low range 53,500 lbs. intermediate 53,000 lbs. high range
track width (standard shoe)	26"
track gauge	110"
overall width	11' 4"
overall length	16' 2"
height (excluding stacks)	7' 11"
drawbar height	23"
ground clearance	20"
operating weight (bare)	approx. 58,000 lbs.

Powered by two diesels with separate Torqmatic Drives for each track, the TC-12 has 365 h.p. available for tractive effort—a smooth steady flow of power to meet any job requirement. There's no master clutch and no manual gear shifting . . . the operator simply moves a lever to select one of three speed ranges—forward and reverse—for travel speeds up to 8.3 m.p.h. Maximum drawbar pull is equal to, or greater than, the weight of the tractor and any attachments.

Each half of the tractor is separate and free to oscillate on a single transverse shaft. This gives the TC-12 maximum stability and traction on rough ground. The tractor can be easily separated into two halves for shipment when necessary.

Never before so much workability!

EUCLID DIVISION GENERAL MOTORS CORPORATION, Cleveland 17, Ohio

Euclid Equipment

FOR LOGGING, CONSTRUCTION AND MINING

From WOODS AND MILLS

Western Charcoal Company is establishing a charcoal briquetting plant at Renton, Wash. The plant will use alder and maple slabs as its raw material. Capacity is expected to be about 6,000 tons a year. Robert H. Little is president and J. E. Keyser, superintendent.

A. I. Strike, for the past 15 years sales manager of **Canadian Forest Products, Ltd.,** has retired after 35 years association with sawmilling and lumber sales in British Columbia. He has been succeeded by **Paul Cantwell,** who has been with the company for several years.

Ralph Prouty has been named sales manager of **Tarter, Webster & Johnson Inc.,** San Francisco. He has been assistant sales manager. Tarter, Webster & Johnson Inc., is the lumber sales subsidiary of the **American Forest Products Corporation.**

The big sawmill at Westwood, Calif., owned by the **Fruit Growers Supply Co.,** has cut its last log. The company's future lumber manufacturing will be done in its Hilt and Susanville mills.

The Mt. Whitney Lumber Co., Johnsondale, Calif., will build and operate a sawmill on the Tule River Indian Reservation. The mill will be near Porterville and Springville where employees will reside. The company has obtained authorization to operate this mill for a twenty five year period instead of the five year period ordinarily granted such activities.

R. N. Young has succeeded **Ross Bowles** as logging manager of the **Harbor Plywood Corp.,** at Riddle, Ore.

Red Blanket Lumber Co., which has a mill near Prospect, Ore., plans to build a planing mill in the White City, Ore., area. The company is also investigating the possibility of establishing a hardboard mill.

E. E. Swigert of Goldendale, Wash., is operating a mill this season near Tieton, Wash. The rough lumber is trucked to the **Yakima Lumber & Box Co.'s** planing mill at Yakima, Wash.

Eldon Thompson of Goldendale, Wash., is operating a small mill in the Cowiche, Wash., area. This mill has a one shift capacity of about 30,000 feet.

A well known southern lumber company, the **Lightsley Bros., Lumber Co.,** Miley, S. C., has decided to quit due to lack of sufficient timber. The mill produced 14,470,121 feet of lumber in 1955.

An electric sawmill will be erected on a 20-acre tract near Chemult, Ore., by purchasers **Kenneth and Dean Kelley, Milan Pond** and **Frank Beckelhymer.** The mill will cut 30,000 to 35,000 feet per 8-hour shift, on two shift basis with 30 men. Cost is estimated at $100,000.

One of the Northwest's pioneer loggers, **George Corkery,** 80, Seattle, died June 30. After logging in Wisconsin, he came to Washington, where he was identified with several Grays Harbor logging firms, including the **Donovan Corkery Logging Co., East Branch Logging Co., The Hobi Timber Co.;** and the **Corkery Bros., Logging Co.** He retired years ago and moved to Seattle.

Malcom-Park Lumber Co., has established a stud mill on the site of the former **Eatonville Lumber Co.,** Eatonville, Wash. The plant will have a daily capacity of about 35,000 feet.

Sedy Brothers of Naselle, Wash., has been incorporated to engage in the logging and sawmill business.

Pete Swimm has purchased and is now operating the **Hofee** shake mill at Sultan, Wash.

Larson Lumber Co., has plans for a new mill at Corvallis, Ore. The mill will have a capacity of about 100,000 feet per day. Owners are **Gordon Larson,** Philomath; **Kermit Roth,** Corvallis; **Clifford Melby,** Philomath. The plant will specialize in the manufacture of handle stock.

J. L. Chambers and **Frank Maloney** who operated the **Albany Lumber Co.'s** sawmill at Albany, Oregon, plans to discontinue that plant. They have acquired a mill near Healdsburg, Calif.

Cle Elum Shingle Company is building a new mill near Cle Elum, Wash. The mill is owned by **A. R. Syvia** and **Gobel Shinniger.**

The Scott-Hearn Lumber Company's sawmill near Ashburn, Ga., was swept by fire in June. Loss was estimated in excess of $250,000.

A sawmill at Carver, Ore., operated by the **Lynwood Lumber Co.** of Clackamas, Ore., burned recently. Loss was estimated at about $40,000.

Oregon Shingle Company is rebuilding its mill at New Era, which burned in May. The owners expect to get the mill into operation in about 90 days.

The **B & W Mill Co.'s** sawmill at Darrington, Wash., burned recently. The planing mill did not burn. The management stated the mill would not be rebuilt but that another plant which has been idle will be placed in operation.

News From the South . . .

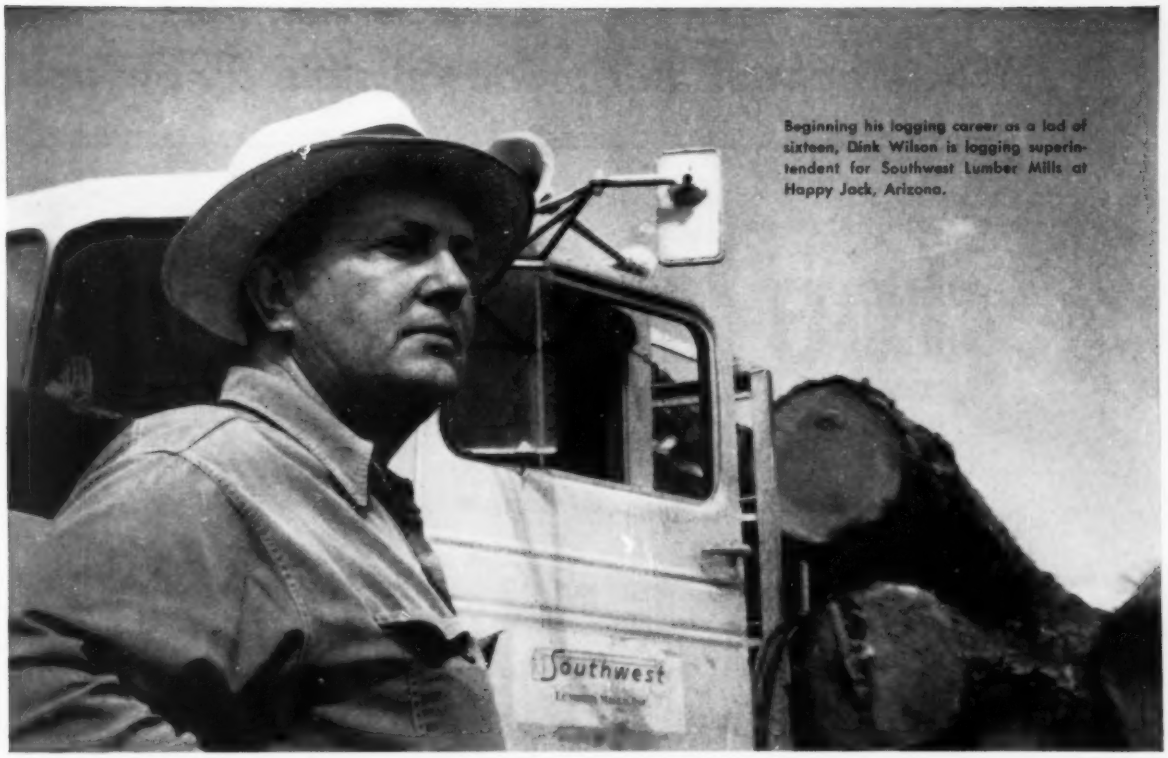
• Option on 800 acres of land near Pine Bluff, Ark., has been taken by The Murphy Corporation, El Dorado, Ark, of which Charles H. Murphy, Jr., is president. The company is active in the petroleum industry; is interested in possibilities of a paper mill to harvest wood from extensive land holdings. International Paper Co. and Dierks Forests, Inc., both plan paper mills at Pine Bluff.

• Possibility of a new pulp and paper mill being erected at Columbus, in north Mississippi, looms as a result of announcement by Major W. J. Propst. The Mississippi Pulp & Paper Co., Inc., was announced as having taken an option of a 2500 acre mill site on the Tombigbee River. The company would erect a 500 ton per day pulp and paper mill devoted to production of kraft linerboard and corrugating material. The company has options on 75,000 acres of forest land.

• Of major interest to a lumber company holding forest land under permanent management, the construction of a mill at Columbus, Miss., and of one near Muscle Shoals, Ala., by the Tennessee River Pulp & Paper Co. will afford a much-needed outlet for pulpwood thinnings and other selective cuttings not of merchantable size or quality as timber.

• Olin Mathieson Corp. will rebuild its Shreveport, La., oak flooring plant destroyed by fire in March at a loss of about one million dollars. The new mill will be built on a new location, adjacent to the firms two creosoting plants.

• ROBERT H. RUSH, lumberman from Hawkinsville, Ga., has been named president of the Georgia Forestry Association for his second consecutive term. Hugh Dobbs is vice president; A. E. Patton, treasurer and Harvey W. Brown is executive secretary. All are from Atlanta.



Beginning his logging career as a lad of sixteen, Dink Wilson is logging superintendent for Southwest Lumber Mills at Happy Jack, Arizona.

Logger in the "Copper State"

By Stewart Holbrook

The man in the employment office looked narrowly at the smooth-faced young fellow who was asking for a job in the logging camp of Southwest Lumber Mills near McNary, Arizona. "How old are you?", he barked, and thought he heard the lad say "over eighteen." That was the way L. E. (Dink) Wilson got to be a logger back in 1928. He had barely turned sixteen, but he was as anxious to work in the woods as he was capable. Twenty-eight years later he is logging superintendent for the same company at Happy Jack, Arizona.

Born in Oklahoma, where the trees were neither large nor numerous, Dink Wilson was never a boomer. All his logging has been done in what some people call the Copper State, no matter its immense stands of ponderosa pine. He has worked for but two outfits. Having learned cat-skinning at McNary, he moved to Flagstaff for the Saginaw & Manistee Lumber Company which operated a camp on the rim of the Grand Canyon.

Four years later he was made a sideboss. In 1943 he was transferred to Barney Pasture and the big pines of the Coconino National Forest. His first foreman's job came when the company moved camp to Mormon Lake. He was made superintendent when operations went to Long Park. In 1947 he laid out the show and set up the camp so cheeringly known as Happy Jack.

In 1953 Southwest Lumber Mills bought the Saginaw-Manistee company —lock, stock and barrel—along with Dink Wilson, who thus returned as logging boss to the concern he started to work for in the days when a once-over-lightly shave lasted him a full two weeks. Meanwhile he married LaVena Lebow whom he had known since grade-school days. Their son Donald has been spending summer vacations working as a truck dispatcher, and expects to enter the United States Navy's flight training center at Pensacola, Florida. His ambition is to become an aeronautical engineer.

Since he mapped the Happy Jack operation in 1947, Dink Wilson has had charge of logging some 161,000 acres of Forest Service lands that produced an average of 3,000 board feet an acre. Currently, the truck haul-is 40 miles to railhead, another 35 miles by railroad to the company mill at Flagstaff.

Superintendent Wilson figures the virgin timber available at Happy Jack will last until 1962, when the company will start a new working circle to cut 153,000 more acres in the decade following. By then, Dink believes, trucks will be going the way of the bullteams. Helicopters will be moving the logs.

Steel serves logging in many ways. Bethlehem Pacific supplies steel in many forms to logging operators and manufacturers of logging equipment. Bars, wire, bolts and other fasteners, structural shapes . . . plates, wire rope, sheets, tool steel . . . and other steel products.

Bethlehem Pacific Steelmaking plants are located in Seattle, South San Francisco, and Los Angeles. Sales offices: Seattle, Portland, Spokane, San Francisco, Los Angeles, Phoenix.

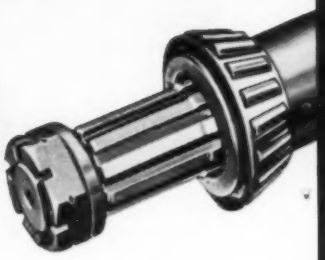
BETHLEHEM PACIFIC
COAST STEEL CORPORATION

The turnabout that made possible a new tool

the new TDA®

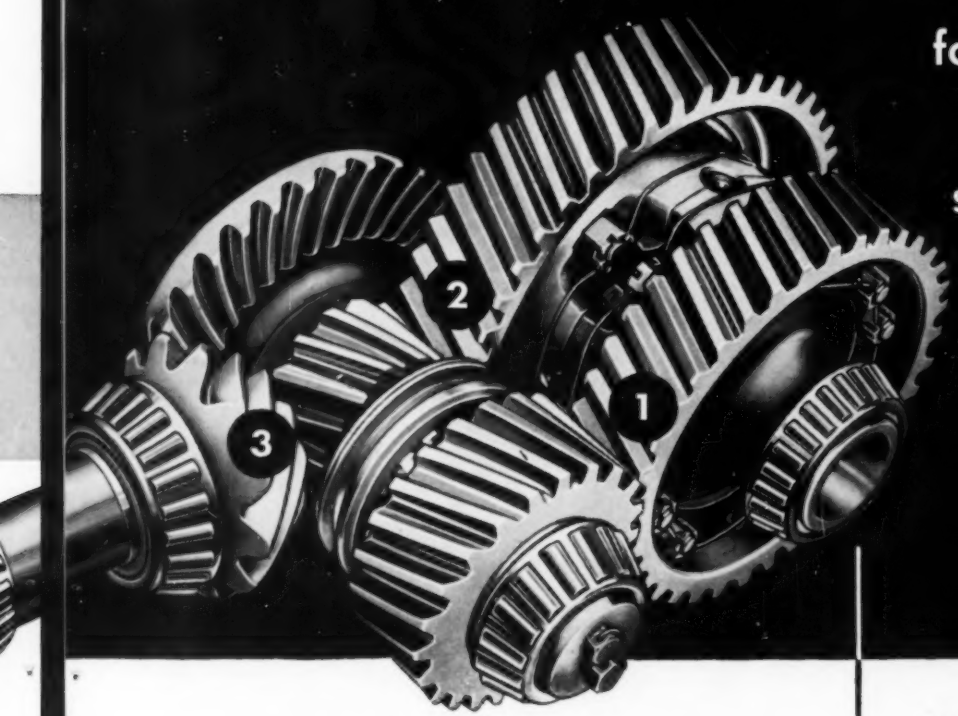
WIDE RANGE®

2-speed axle



A new member of the famous TDA 2-speed axle family

for application of automotive power...



for operations requiring short transmission steps and high over-all gear reduction

The new TDA WIDE RANGE 2-Speed Axle (available in both 2 to 1 and 2½ to 1 ratio spreads) offers all the highly desirable advantages heretofore available only through the use of complex multiple-speed transmissions or auxiliary gear boxes, without many of the penalties of either one or the other:

WITHOUT laborious two-stick shifting.

WITHOUT wasteful excessive weight.

WITHOUT increased driver fatigue.

WITHOUT unusual wheelbase limitations.

WITHOUT higher initial vehicle cost.

WITHOUT higher maintenance cost.

WITHOUT excessive wear on the lower speed gears of the transmission.

WITHOUT restricted over-all gear reduction.

WITHOUT complicated shift patterns.

For complete information on the new TDA WIDE RANGE Axles now available, call, wire or write your nearest vehicle dealer or branch.

Here's the simple switch that turned the trick!

The broader range of the new Timken-Detroit® WIDE RANGE 2-Speed Axle was achieved by a fairly simple mechanical rearrangement. We "flipped" our high-range (1) and low-range (2) helical gear sets—reversed their relative positions—to place the enlarged helical pinion of the high-range gear set where it would not interfere with the hypoid pinion (3) of the first-reduction gear set.

Plants at: Detroit, Michigan • Oshkosh, Wisconsin Utica, New York • Ashtabula, Kenton and Newark, Ohio • New Castle, Pennsylvania

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TIMKEN Detroit AXLES

TIMKEN-DETROIT AXLE DIVISION
ROCKWELL SPRING AND AXLE COMPANY
DETROIT 32, MICHIGAN

The Accepted Standard

WORLD'S LARGEST MANUFACTURER OF AXLES FOR TRUCKS, BUSES AND TRAILERS

Standard Engineer's Field Report

CASE HISTORY
LUBRICANT RPM Automotive Grease
FIRM Veneer-Chip Transport Co., Tacoma, Washington

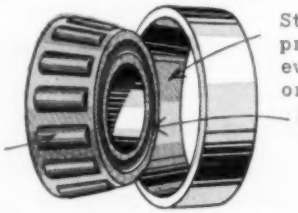
RPM Automotive Grease replaces 4 special greases, saves $920 per year wheel-pack labor cost

Veneer-Chip Transport Company replaced four special greases with RPM Automotive Grease in their fleet of six tractors and seventeen trailers. This change saves the company $920 per year for wheel-bearing service alone. Firm also uses RPM Automotive Grease in universal joints, chassis and fifth wheels.

Superintendent Tom Jones says, "We used to pay $40 per year for wheel-pack service in each of 23 vehicles. By eliminating special greases, wheel-bearing and all other lubrication is now done in our own shop. What's more, RPM Automotive Grease stays in torsion bars longer than any grease we've ever used." Equipment hauls wood chips from lumber mills to paper plant. Special hoist (above) dumps 38,000 lbs. of fir and hemlock chips from 35-foot trailer.

Why RPM Automotive Grease protects bearings under all conditions

Sticks to all bearing surfaces . . . feeds slowly and evenly



Stays on, maintains proper consistency even in freezing cold or extreme heat

Provides a tough lubrication film that protects against heavy pounding and overload pressures

RPM

Free Folder, giving complete information on RPM Automotive Grease, will be sent on request to Standard Oil Company of California, 225 Bush Street, San Francisco, California.

For Expert Help on lubrication or fuel problems, call your Standard Fuel and Lubricant Engineer or Representative, or write to 225 Bush Street, San Francisco, California.

TRADEMARK "RPM" AND DESIGN REG. U. S. PAT. OFF.

STANDARD OIL COMPANY OF CALIFORNIA

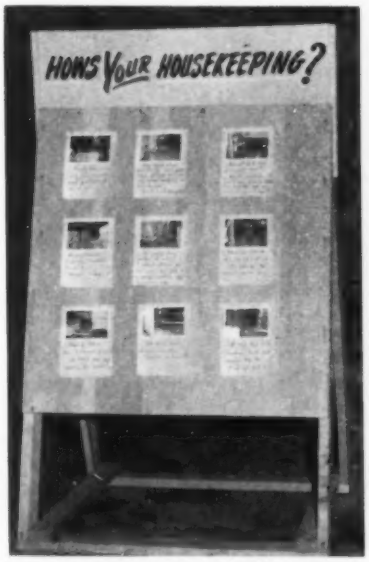
Company Makes Signs Talk Safety

• One company which is articulate in carrying safety messages to its employees is the Roseburg Lumber Co., Roseburg, Ore. Bob Tripodi is safety director.

Pictured are some of the signboard devices which warn, record and remind (all photos courtesy Accident Prevention Division, Oregon State Industrial Accident Commission) at the company's Dillard plant.

The company has a safety committee for each of the four operations. Each meets monthly. Its company publication, The Roseburg Woodsman, has a monthly safety page. Movable displays permit covering the plant.

BOLD SIGNS at the Roseburg Lumber Co.'s Dillard, Oregon, log dump are bright red and black on a yellow background. The added "informal" arrow accentuates the warning.



DISPLAY CAN be moved to different department and the photos changed. Graphic pictures illustrate safety problems related to shelves, tipping loads, welding worries and other important safety points. Safety Director Bob Tripody reports that the pictures make the desired point more clear than words.

ABOVE: SAFETY record chart in meeting room for safety committees has nineteen possible causes of an accident listed.

RIGHT: SPECIAL sign near main entrance has red light bulb opposite name of the last department where a lost-time accident occurred.

"WEAR YOUR Safety Gear" display can be moved from one department to another. Display includes safety shoes, goggles, respirators, life jackets and other safety items.

STEEL TWIN STIFF booms have a double line spread which gives much greater protection on the opposite side from the dump. Cables go over the brow log which further facilitates unloading. Brow is concrete and steel reinforced with set-in rails for further protection. Roseburg Lumber feels this minimizing of replacement worry will pay for sturdy arrangement.

Torqmatic "tames" the toughest logging roads

HERE you see a Euclid TD log hauler—the easiest-handling truck ever to hit the tall timber. It boasts an Allison TORQMATIC DRIVE *and* an Allison TORQMATIC BRAKE, a combination that means driving ease in any forest.

TORQMATIC DRIVE eliminates double clutching and gear-shift guess as this truck takes king-size grades in stride. It permits full-power shifts *instantly* with finger-tip hydraulic control. And by transmitting engine power with silken smoothness, this matched converter-transmission team stretches the life of all driveline components to cut costs for loggers.

The TORQMATIC BRAKE mounted in the driveline behind the torque converter provides safe, controlled speeds on long downgrade hauls. It permits the driver to maintain any desired speed on downhill runs, greatly extending brake lining life by saving the regular service brakes for snubbing on sharp curves and for complete stops.

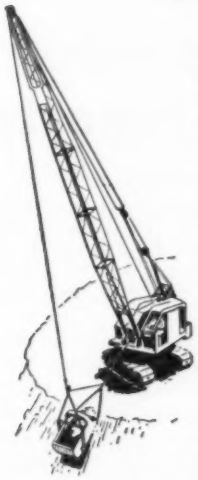
You can get an Allison TORQMATIC DRIVE in a wide range of equipment built by almost 100 manufacturers. For full information on Allison TORQMATIC DRIVES for the equipment you build or buy, write Allison Division of General Motors, Box 894G, Indianapolis 6, Indiana.

GM TORQMATIC

Allison ★ TORQMATIC DRIVES

It's time to compare...with LINK-BELT SPEEDER

"First time a shovel has kept us rolling like this!"



Shovel-Crane owners:

New Link-Belt Speeder performance is so outstanding, it has completely revised existing production standards . . .

With competition getting rougher, can you afford to think in terms of outdated production standards? If you aren't using a Link-Belt Speeder—it's hard to realize just how much more production . . . more usable net horsepower these new shovels, cranes and hoes offer.

Speed-o-Matic power hydraulic controls—a Link-Belt Speeder exclusive—make every move fast, sure, easy. With them, you can boost output—often as much as 25% or more!

From track treads to boom tip

. . . every detail of a Link-Belt Speeder reflects advanced engineering, skilled craftsmanship, precision construction and quality materials.

Check this list of a few standard and optional features—independent swing and travel . . . independent rapid boomhoist . . . torque converter . . . third drum . . . reversing clutches for both hoist drums . . . and hydraulic-actuated swing brake.

It's good business to *compare now!* See why more and more Link-Belt Speeder owners have completely revised their thinking on how fast a job will go. Your distributor will be pleased to arrange for you to see a new Link-Belt Speeder in action, give you the facts. Call him now! Link-Belt Speeder Corporation, Cedar Rapids, Iowa.

14.109-A

LINK-BELT SPEEDER

Builders of a complete line of shovel-cranes . . . with exclusive Speed-o-Matic power hydraulic controls

Your Factory-Trained Sales and Service Specialists

HOWARD-COOPER CORP., Seattle, Wash.

WESTERN MACHINERY CO., Spokane, Wash.

WESTERN EQUIPMENT CO., Boise, Idaho

EDWARD R. BACON CO., San Francisco, Sacramento, Oakland, Fresno, Calif.

MONTANA POWDER & EQUIP. CO., Helena, Billings, Mont.

PURVES RITCHIE LIMITED, Vancouver, B.C.

B.F.Goodrich

All-Nylon Rock Logger tires wear twice as long as any other make, logger reports

THE Castle Creek Division of the Ralph L. Smith Lumber Company operates out of Castella, California. Its trucks haul giant loads 6 days a week, 12 hours a day, over rocky roads and up steep grades.

They tested leading makes of tires for this work, then chose B.F. Goodrich *all-nylon* Rock Logger tires when they found these tires gave twice the original tread wear of any other make. Rock Logger tires have run 3 years without a failure; road delays have been eliminated.

B. F. Goodrich builds the Rock Logger tire with a specially compounded tread that defies rock cuts and snags. Rugged cleats give full traction in forward or reverse. And under the tread is the B. F. Goodrich *all-nylon* cord body. It withstands double the impact of ordinary cord materials, resists heat blowouts and flex breaks. The *all-nylon* Rock Logger body outwears even the extra-thick tread, *can still be recapped over and over!*

Money-saving B. F. Goodrich tires are available for every logging job. See your nearby retailer or write *B.F. Goodrich Tire Co., A Division of The B. F. Goodrich Company, Akron 18, Ohio.*

ALL-NYLON ROCK LOGGER tires cut costs per mile by 50%, says P. A. Reincke whose trucks haul logs near Pacific Beach, Washington.

J. C. MILLER of Quinault, Washington, reports he gets up to 50,000 miles of service from the original tread of Rock Logger tires.

Specify B. F. Goodrich tires when ordering new equipment

B.F.Goodrich
FIRST IN RUBBER

Your B. F. Goodrich retailer is listed under Tires in the Yellow Pages of your phone book

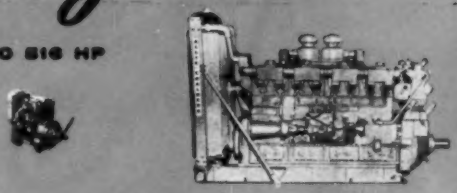
IT'S Allis-Chalmers ENGINES for *any* Power Need

any FUEL

DIESEL . . . GASOLINE
LP GAS . . . NATURAL GAS

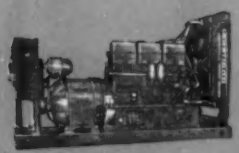
any SIZE

8 TO 816 HP

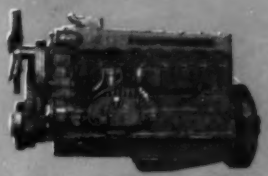


any TYPE

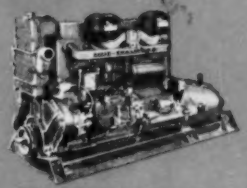
OPEN OR ENCLOSED POWER UNITS



GENERATOR SETS

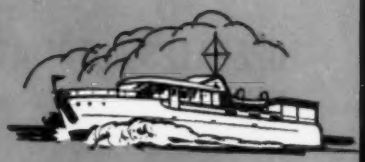


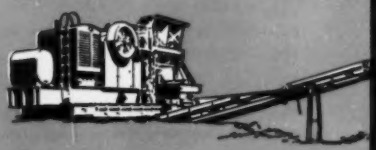
FAN-TO-FLYWHEEL ENGINES

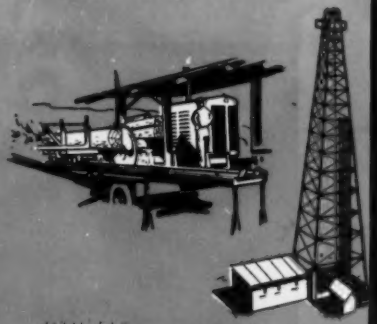


MARINE ENGINES

any USE







Make your Allis-Chalmers Engine Dealer your main source of power for all your engine needs. He can supply a wide range of engines for any fuel — gasoline, diesel, LP gas, natural gas — for any use . . . stationary or mobile-power units, fan-to-flywheel engines, generating sets or marine engines. Each has the high-efficiency, long-life characteristics necessary for continuous as well as stand-by service. With a high degree of interchangeability of parts, you can use a different type of engine for each application and yet maintain a small stock of parts.

Write for bulletins or see your Allis-Chalmers Engine Dealer for more information.

ALLIS-CHALMERS, BUDA DIVISION, MILWAUKEE 1, WISCONSIN

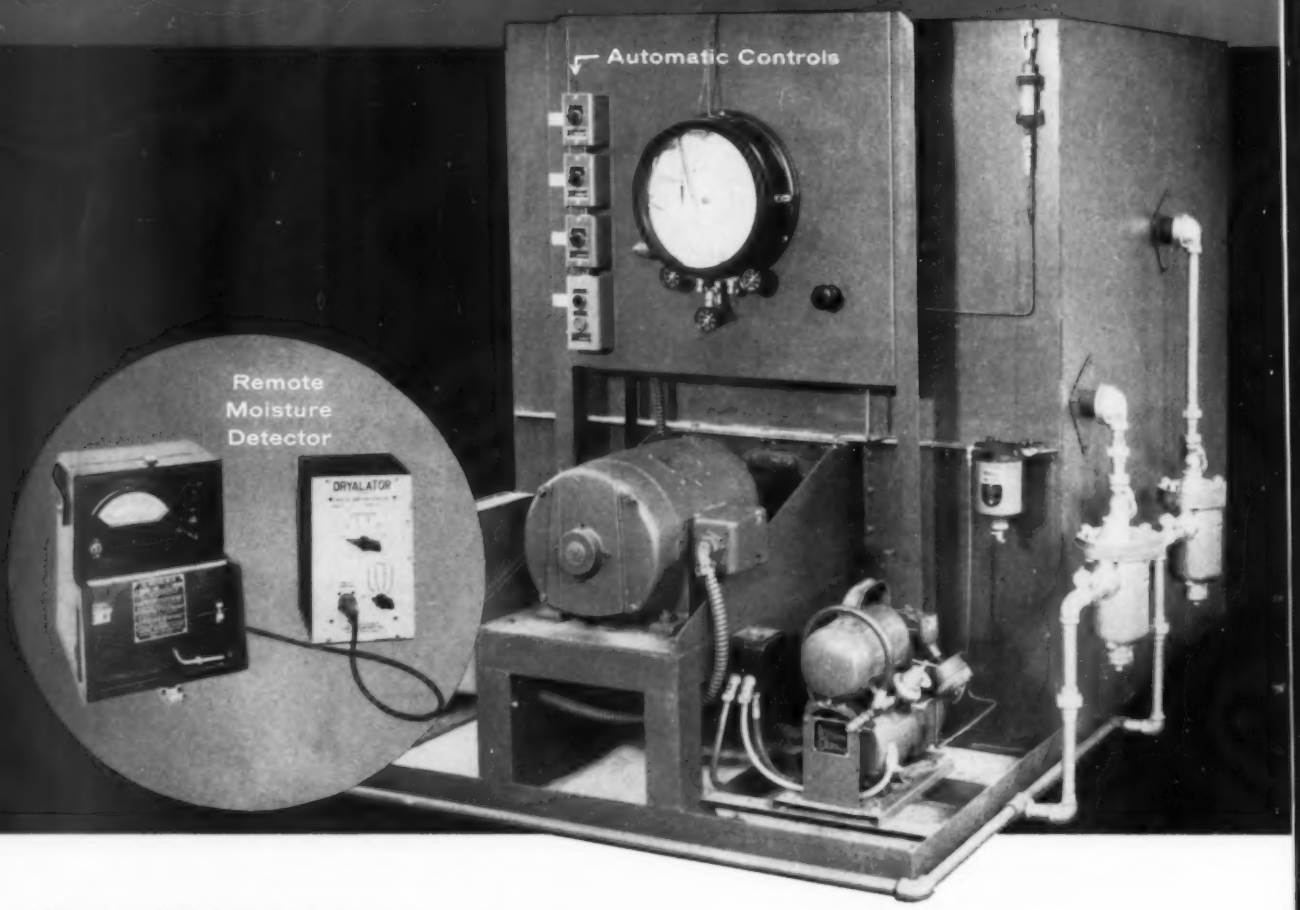
ALLIS-CHALMERS AC ALLIS-CHALMERS

BE-4

NEW DRYALATOR dries lumber

3 TO 5 TIMES FASTER,

Saves Up to 2/3 on Initial Investment



OPERATES AUTOMATICALLY

Using new engineering principles, the O&S packaged DRYALATOR automatically draws moisture out of any species of lumber *faster and better* than ever before possible . . . actually reduces drying time from days to hours! Ample evidence is available of the superior performance of the DRYALATOR over other kiln equipment in drying various kinds of lumber. Automatic controls give you push-button operation, permitting a constant and accurate moisture check without stopping the drying or opening the kiln.

SAVES SPACE, INVENTORY COSTS

Because of DRYALATOR's high speed and quality seasoning, only a small kiln is required. Existing kilns can be inexpensively converted to DRYALATOR operation. This new system eliminates the high costs of custom drying and allows profitable assembly line production with reduced inventories.

Investigate the cost-saving benefits to your plant of this revolutionary new drying system. Write today for DRYALATOR bulletin.

O&S DRYALATOR

WOOD AND LUMBER DRYER

ORR & SEMBOWER, INC.

Morgantown Road, Reading, Pa.

Builders of Heat Transfer Equipment for over 70 Years

UNDER THE WINGS OF THE FLYING A

ON TIME...WITH

TYDOL HD

Count on TYDOL HD Motor Oil to keep them rolling . . . right on time. TYDOL HD **cleans as it protects** . . . frees sticky valves and rings that waste power and road-time. It **protects as it lubricates** with a tough oil film that stands up under the heaviest loads . . . prevents rust and corrosion on engine parts—even during shutdown. TYDOL HD saves wear . . . saves repair . . . cuts operating costs.

THE RIGHT OIL

for every service condition

TYDOL HD ... *high detergency for any engine in normal heavy duty operation.*

TYDOL HD S-1 ... *higher detergency for stop-and-go service or continuous heavy loads.*

TYDOL HD S-2 ... *highest detergency for hard, heavy diesel service in extreme operating conditions.*

TIDEWATER OIL COMPANY

SAN FRANCISCO • TULSA • HOUSTON • NEW YORK

ALLIS-CHALMERS

new TS-260

200 hp

11 YD (STRUCK)
14 YD (HEAPED)

power-matched ...for Production and Profit on the Job!

Power-Matched to Capacity

With more than 18 horsepower for every yard of struck capacity, the new TS-260 has plenty of power to move full loads at full speed—under all conditions.

Power-Matched to Strength

The TS-260 has the structural strength and balance to effectively utilize all of its horsepower . . . with extra capacity built into the clutch, transmission, final drives and drive axles . . . and with a heavy, all-steel, box-type tractor frame.

Power-Matched for Speed

With plenty of engine power, the TS-260 loads fast, hauls fast, dumps fast . . . moves big payloads at low cost, even under tough conditions.

Power-Matched for Operating Ease

Overlapping gear speeds in all four gear ratios reduce gear shifting, speed work cycles. And with 90-degree steering for rapid maneuvering in close quarters, it's easy for the operator to get the most out of the TS-260.

Motor Scraper

"Live-action" hydraulics for sure control. Positive gear-driven pump provides constant power for both steering and scraper operation.

Positive 90-degree steering for close-quarter maneuverability. A 30-degree turn of steering wheel directs full pump flow to two double-acting steering jacks for fast, positive turns up to 90 degrees. For slow turns, a slight turn of the steering wheel provides smooth response.

"Boiling action" loading for big payloads. Combination of curved bowl bottom and offset cutting edge eliminates voids . . . builds profitable, heaped loads.

Quick, clean spreading with high apron and forced ejection. Patented linkage moves apron ahead and up when ejector goes forward . . . providing high apron lift and exceptionally large opening.

Big 200-horsepower Allis-Chalmers diesel engine. Here is plenty of reserve for low-cost operation under all conditions. "Follow-through" combustion results in sustained power, low peak pressures . . . smooth, steady performance.

New easy-shifting transmission. New clutch brake and gear overlap in all four speeds makes it easy to shift gears smoothly, maintain steady acceleration and full pulling power.

Heavy-duty power train. The TS-260 power train transmits high engine torque to the drive wheels with maximum efficiency. The engine, clutch and constant-mesh transmission are assembled as a unit to assure accurate alignment. Simplified removal of each individual component provides easy serviceability.

Double-safety brakes for positive stops.

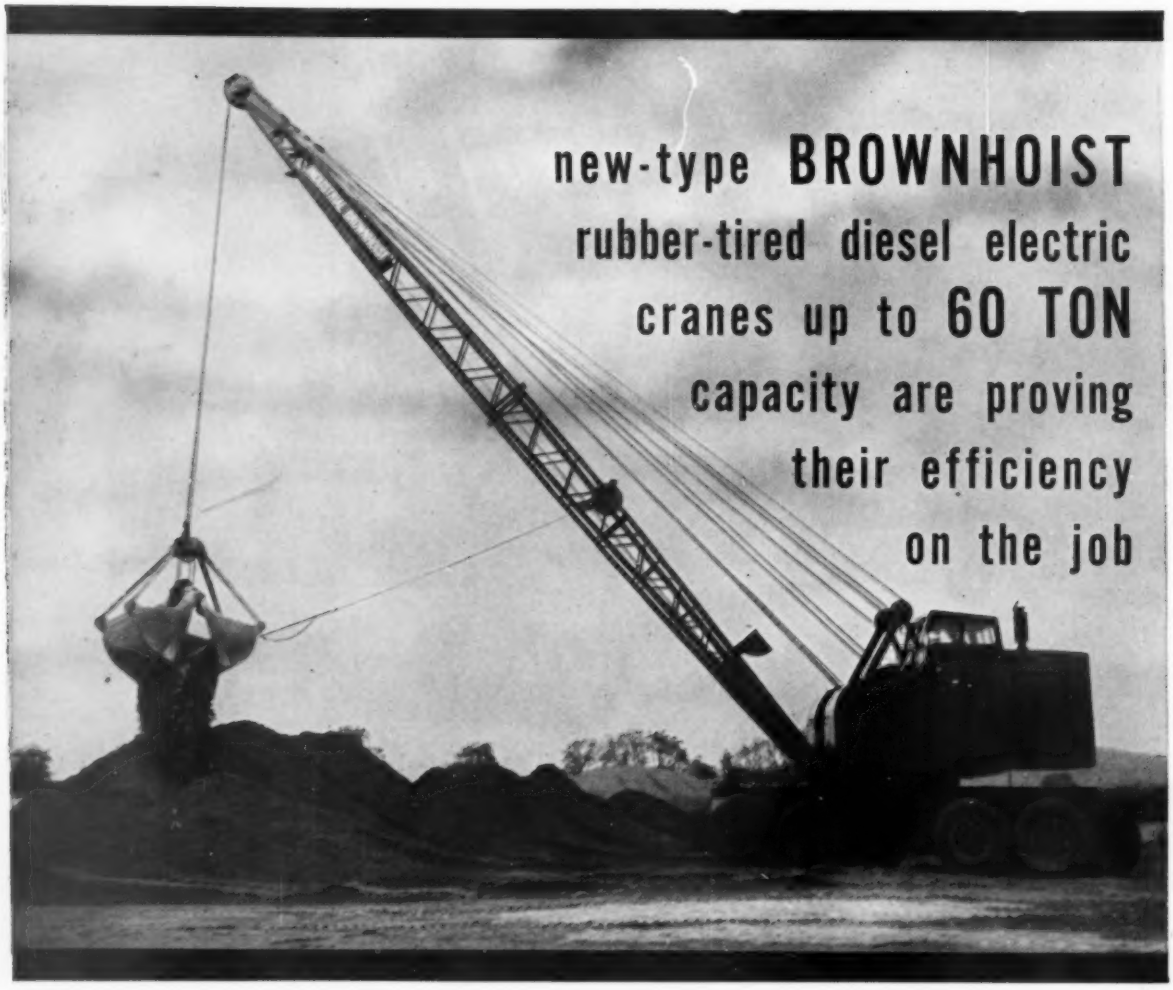
Balanced weight distribution for maximum traction, long tire life.

Choice of tires to fit job conditions.

Get all the facts from your Allis-Chalmers dealer—now!

ALLIS-CHALMERS, CONSTRUCTION MACHINERY DIVISION, MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS



183

BROWNHOIST MATERIAL HANDLING EQUIPMENT GIVES A LIFT TO AMERICAN INDUSTRY

INDUSTRIAL BROWNHOIST CORPORATION
BAY CITY, MICHIGAN • DISTRICT OFFICES: New York, Philadelphia, Cleveland, Chicago, Denver, San Francisco, Montreal • AGENCIES: Detroit, Birmingham, Houston

The new Brownhoist Wagon-Cranes are specifically designed to do an outstanding job wherever high mobility and high capacity are required. You'll see them at work performing heavy duty jobs in mines, quarries, steel mills, for railroad and lumber operations and for many other large industries. Equipped with dynamatic clutch, anti-friction bearings at all essential points, power steering, electric travel and electric rotation. Mounted on a 12 wheel crane carrier capable of speeds up to 8 miles per hour, the unit can be operated by one man from easy-to-reach controls. Economical to operate. Available in capacities from 25 to 60 tons. For specification folder or further details, get in touch with our nearest representative or write us at Bay City.

SUBSIDIARY OF Penn-Texas CORPORATION

BROWNHOIST

2 new chemicals

give positive, low-cost grass and weed control

DOW RADAPON*

For grasses, cattails and Phragmites

Here is a new chemical spray which gives positive results on all common grasses. Developed by Dow Chemical Company, RADAPON has proved its effectiveness in exhaustive tests.

Use RADAPON to keep grass out of storage yards, alleys, sidings and ditches. It is effective even on plants in standing water, making chemical control of cattails in ditches practical. RADAPON saves time and money and eliminates use of large crews and heavy equipment to keep ditches clean.

For control of weeds as well as grasses, RADAPON may be mixed with 2-4-D or 2-4-5-T formulations.

DOW BARON*

For both grasses and broad-leaved weeds

Longer-lasting chemical weed control is now possible with new BARON, a non-selective herbicide.

This highly-effective liquid spray is absorbed through both leaves and root system. It remains in the soil for extended periods of time, giving control of germinating seedlings following initial treatment.

BARON controls both broad-leaved weeds and grasses. Use it to eliminate unsightly, unwanted vegetation that creates fire hazards, breeds insects and rodents, and reduces plant efficiency.

**Trade Mark Dow Chemical Company*

Features of Radapon and Baron

Consistent results • Economical
Mix easily with water
Easy to apply • Safe

CHAPMAN®

CHAPMAN CHEMICAL COMPANY

National distributor to the forest products industries of Radapon and Baron for the Dow Chemical Company.

MEMPHIS 1, TENN.

Minneapolis, San Francisco, Portland, Ore., Charlotte, N. C.

Mail coupon for information and prices

Chapman Chemical Company
P. O. Box 138, Memphis 1, Tenn.

Please send complete data on Radapon and Baron for weed and grass control.

*Name*_____

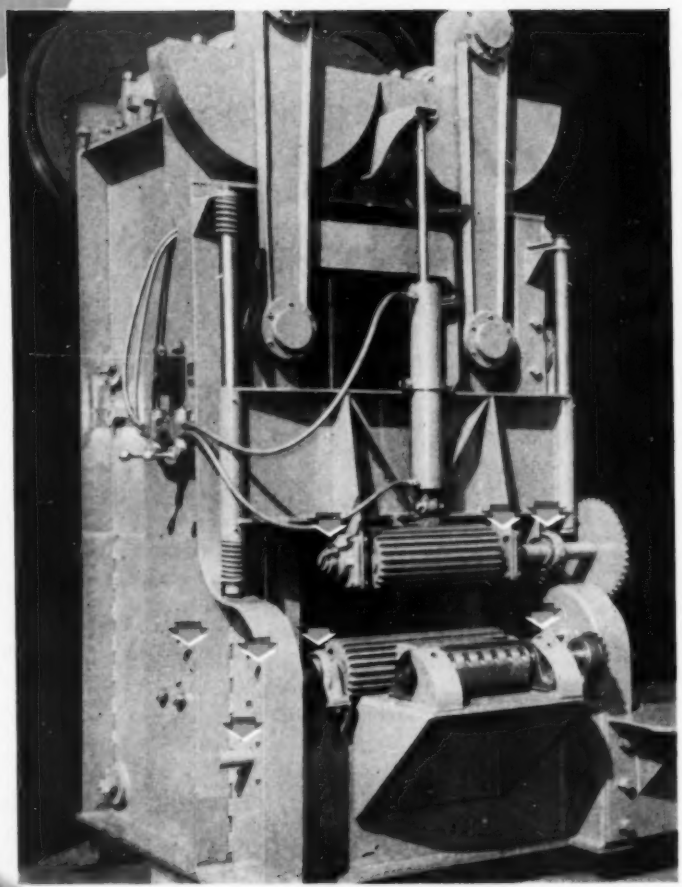
*Address*_____

_____

TURNING POINTS to Lower Gang Mill Costs

On the Superior "200" Gang Mill manufactured by the Dallas Welding & Boiler Company, you'll find Fafnir ball bearings or ball bearing units at 30 turning points. The use of these standard mill size bearings helps to keep the initial cost of the gang mill low. In addition, it results in long life expectancy for moving parts and reduces power and lubrication requirements to a minimum.

Many manufacturers of lumbering equipment specify Fafnir ball bearings for their equipment. They take full advantage of the broad range of types and sizes available including the famous Fafnir Wide Inner Ring Bearing with Mechani-Seals and Self-Locking Collar . . . easiest of all to install. Ask your authorized Fafnir distributor for complete details, or write The Fafnir Bearing Company, New Britain, Connecticut.



The Superior "200" has a capacity of 24" by 24"; feed rate, 0 to 30 ft. per minute-reversible; cutting capacity, logs up to 35M BF/8 hours, cants up to 50M BF/8 hours.

FAFNIR
BALL BEARINGS

MOST COMPLETE LINE IN AMERICA

This pilot model, in from field test tour, was on display at Redwood Region Conference

Did you preview the new LETOURNEAU Log Loader?

The Series R Loader above is one of the pilot models now undergoing rigorous field tests on independently-operated jobs. This new loader is not yet available, but its performance record on the test tours assures the availability of production models at an early date. On-the-job testing is part of a continuing program by R. G. LeTourneau, Inc., to make certain that new LeTourneau equipment will fit the logging industry, its methods, working conditions, and people.

If you're considering a loader in the 15 to 25 ton class — either crawler or truck mounted — this machine combines the best features of both. Here are three big reasons it is well worth waiting for:

1. POWERED OUTRIGGERS. Switch controlled from the cab, direct-geared outriggers are power set, power retracted. Have stability for capacity loading in seconds . . . be ready to travel even faster.

2. DC POWERED HOIST AND SWING. Exact speed, exact power — just the amount conditions call for — with the infinitely controlled action of individual DC motors for hoist and swing. Here's load control you never thought possible for fast log handling with no "pendulum action."

3. BIG CAPACITY WITH NEW MOBILITY. You'll send this big loader all over your show — fair weather or foul. It has speed for road travel, plus the traction you need for working anywhere along the road.

For advance information about this amazing new loader, send in the coupon below. No obligation, of course.

R. G. LETOURNEAU INC

2548 S. MacArthur, Longview, Texas, U.S.A.

I'm interested in a big capacity, mobile loader. Tell me what your Series R machine can do for me.

Name_____

Company_____

Address_____

City, State, or Province_____

L-125

LIMA CRANES

...with mountings for every need

Cranes—Crawler mounted, Truck mounted—Wagon mounted. Baldwin-Lima-Hamilton builds them all and in sizes that will best meet your requirements. When mounted on rubber they are available in capacities up to 50 tons. They will go anywhere you care to drive a truck and at speeds up to 25 m.p.h.

Write today for a copy of our bulletin "LIMA for Logging." It contains information on the full line of quality-built LIMA cranes and shovels for the logging industry. You'll find in it descriptions of just the right machines for your timber handling needs.

CRAWLER TYPE

- available in variable capacities
- travel speed up to 1 m.p.h.
- all major operations air controlled except types 34 and 44
- independent boom hoist
- long-wide crawlers for greater stability

TRUCK TYPE

- mounted on LIMA 10 wheel truck carrier
- powered by two engines (one in carrier, one in rotating frame)
- travel speed, 25 m.p.h.
- types 24, 34, 44, 54 and 703 available with truck mounting

WAGON TYPE

- types 24, 34, 44, 54 and 604 available with wagon mounting
- one engine powers all operations including travel
- one operator controls all operations from cab
- rotating assemblies have same basic features as corresponding crawler type machines

LIMA SHOVELS · CRANES · DRAGLINES · PULLSHOVELS

BALDWIN-LIMA-HAMILTON

Construction Equipment Division—LIMA WORKS

Our Seattle Office
1932 First Avenue South
Seattle, Washington

Evans Engine & Equipment Company
1230 Westlake North
Seattle, Washington

Feenaughty Machinery Company
112 S.E. Belmont Street
Portland 14, Oregon

Feenaughty Machinery Company
600 Front Street
Boise, Idaho

Dietrich-Collins Equipment Ltd.
890 S.W. Marine Drive
Vancouver, B. C., Canada

Modern Machinery Co., Inc.
4412 Trent Ave.
Spokane 2, Washington

Cascade Industrial Supply
Highway 99, So.
Redding, California

"T5X is a wonderful motor oil..."

King Gray, logging superintendent, Chiloquin Timber Co., McCloud, California

"...my master mechanic and everyone on this show swears by T5X and all Union Oil products, which we've used exclusively in our equipment since 1945.

"Although this fir and pine show is somewhat tough, with practically all adverse grades for our 12 log trucks (7 KWs with GMC 503s and 5 Autocars with Cummins 200s) we usually run them two seasons on T5X between major overhauls. Our 15 diesel tractors average five years between majors on this same oil which we all call *grape juice*."

King Gray's experience with Union Oil products, which dates back to 1929, is typical of *woods bosses* everywhere in the West. Once a man tries Union Oil products and service he's usually sold for life. We suggest you try T5X and all the other Union Oil petroleum products which are engineered for use in the very equipment *you* have on *your* show. We're sure that, like King Gray, you won't be satisfied with any others.

UNION OIL COMPANY
OF CALIFORNIA

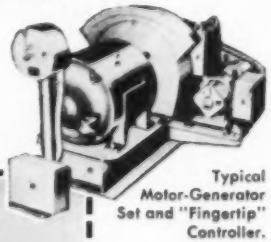
Los Angeles: Union Oil Bldg. • **New York:** 45 Rockefeller Plaza • **Chicago:** 1612 Bankers Bldg. • **Philadelphia:** Eastwick Ave. & Edgewood St. **Dallas:** 313 Fidelity Union Life Bldg. • **Kansas City, Mo.:** 612 W. 47th St. **New Orleans:** 644 National Bank of Commerce Bldg.

There's MORE ZIP in ZIDELL DRIVES

A special exciter system *instantly* relays your command to the equipment being driven via the "Fingertip" Controller

Regardless of whether it is a fast start or stop, an instant reversal, slow or top speed, the operator has precise control of the equipment being driven at his fingertips. Extremely fast, but smooth acceleration and deceleration delivered by Zidell Electric Variable Speed Drives result in longer cable life and less maintenance on all moving parts. Units consist of rotating parts throughout, which brings about more constant speed, up to the full rated capacity of the drive motor. Consider the advantages offered by Zidell Drives for your new installation or conversion. There's a rugged Zidell Drive for your CARRIAGE • VENEER LATHE • VENEER LATHE TRAY SYSTEM • PLANER FEED ROLLS • EDGER FEED ROLLS • CONVEYOR or any application where variable speed, constant torque and extreme flexibility are necessary.

ZIDELL MACHINERY & SUPPLY CO.



Typical Motor-Generator Set and "Fingertip" Controller.

ZIDELL MACHINERY & SUPPLY CO.
3121 S. W. Moody Street, Portland 1, Oregon
Please send brochure on Zidell Electric Variable Speed Drives
Name _____ Position _____
Street _____
City _____ State _____
Company _____
Have Representative Call ☐

W. M. "SCOTTY" ALLISON (left), safety director of the B. C. Lumber Manufacturers Association, presents plaque commemorating excellent safety record to B. C. Manufacturing Co., New Westminster, to HENRY H. WRIGHT, chairman of the mill's safety committee for 8 years.

Four Safety Awards Won

• A safety record unique in British Columbia was celebrated recently by B. C. Manufacturing Co., a subsidiary of Powell River Co., in New Westminster, when four awards were presented:

- The National Safety Council award won in competition with all major sawmills in Canada and the U. S.;
- The Workmen's Compensation Board meritorious safety award for first place in Group B (350 employees);
- The B. C. Safety Council gold award for completing 860,334 accident-free man hours to September 1955;
- The B. C. Safety Council award for completion of 1,042,972 accident-free man hours to January 5, 1956.

Presentations were made by W. M. "Scotty" Allison of the B. C. Lumber Manufacturers Association, E. V. Ablett, of the Workmen's Compensation Board, and Harry Hamper of the B. C. Safety Council. The awards were accepted by S. W. Laidman, manager of the company's mill, and Henry H. Wright, safety committee chairman, and David Steeves, chairman of the sub-local committee.

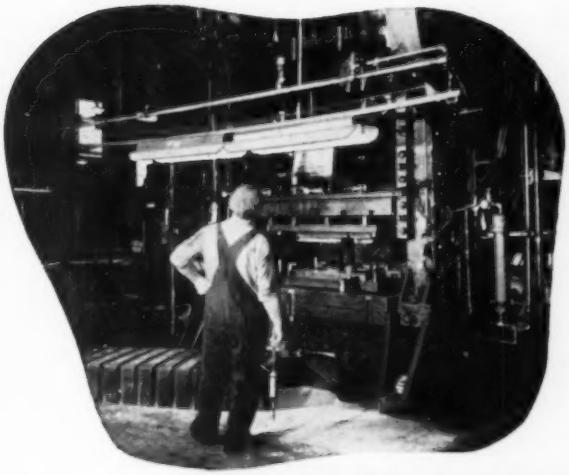
The day shifts of the planing mill and sawmill at B. C. Manufacturing Co. have completed nearly six years of operation—1804 days—without any lost time accident. There are 100 men employed in these two sections and their record is outstanding on the continent.

Members of the safety committee responsible for the achievement, in addition to Mr. Wright, were Paul Sly, D. Steeves, R. Traun, E. Baxter, M. Deutsch, Ben Pietz, K. J. Holbeche, C. Craig, S. B. Charpoonier, H. A. Holmberg and W. J. Lingenfelter.

SAVINGS START

when you stop "hand feeding" hungry bearings...and change lubrication methods from

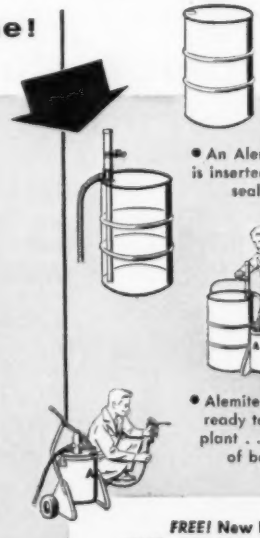
Backward to Forward!



ALEMITE PORTABLE POWER GUN

saves 23.9 man-hours for every 100 pounds of lubricant

...saves right down the line!



- A 400-pound barrel of lubricant—any type—arrives at plant oil room. It's sealed, fresh, "refinery-clean."
- An Alemite Power Transfer Pump is inserted in drum. Lubricant stays sealed against dirt, grit, contamination.
- In just 60 seconds a portable power gun is filled with lubricant that is still as fresh as when it left the refinery. No mess—no waste!
- Alemite Portable Power Gun is ready to roll anywhere in the plant . . . to service hundreds of bearings with clean, safe lubricant!

Are you lubricating hundreds of bearings with ordinary hand gun equipment that's best suited to service only a *couple of dozen bearings*?

An ordinary hand gun can be emptied in a few minutes. But an Alemite Power Gun gives positive, fast, safe lubrication to hundreds of bearings *without a single re-fill!* This difference means a saving of 23.9 *man-hours* on every 100 pounds of lubricant used. Because lubricants are always kept "refinery-fresh," machines get better protection, have less breakdowns. You make important *savings in machine-hours* . . . increase production, cut maintenance costs!

An Alemite Portable Power Gun eliminates wasteful spillage . . . makes housekeeping easier, less expensive . . . reduces product spoilage. Air or electrically operated models for all types of lubricants. There's a type and size pump for your plant. Mail coupon at right for the full story about Alemite savings!

***FREE!* New Booklet:**
"5 Plans for Better Lubrication"
Alemite, Dept. HH-86, 1850 Diversey Parkway
Chicago 14, Illinois

Please send me my FREE copy of "5 Plans for Better Lubrication."

Name .....

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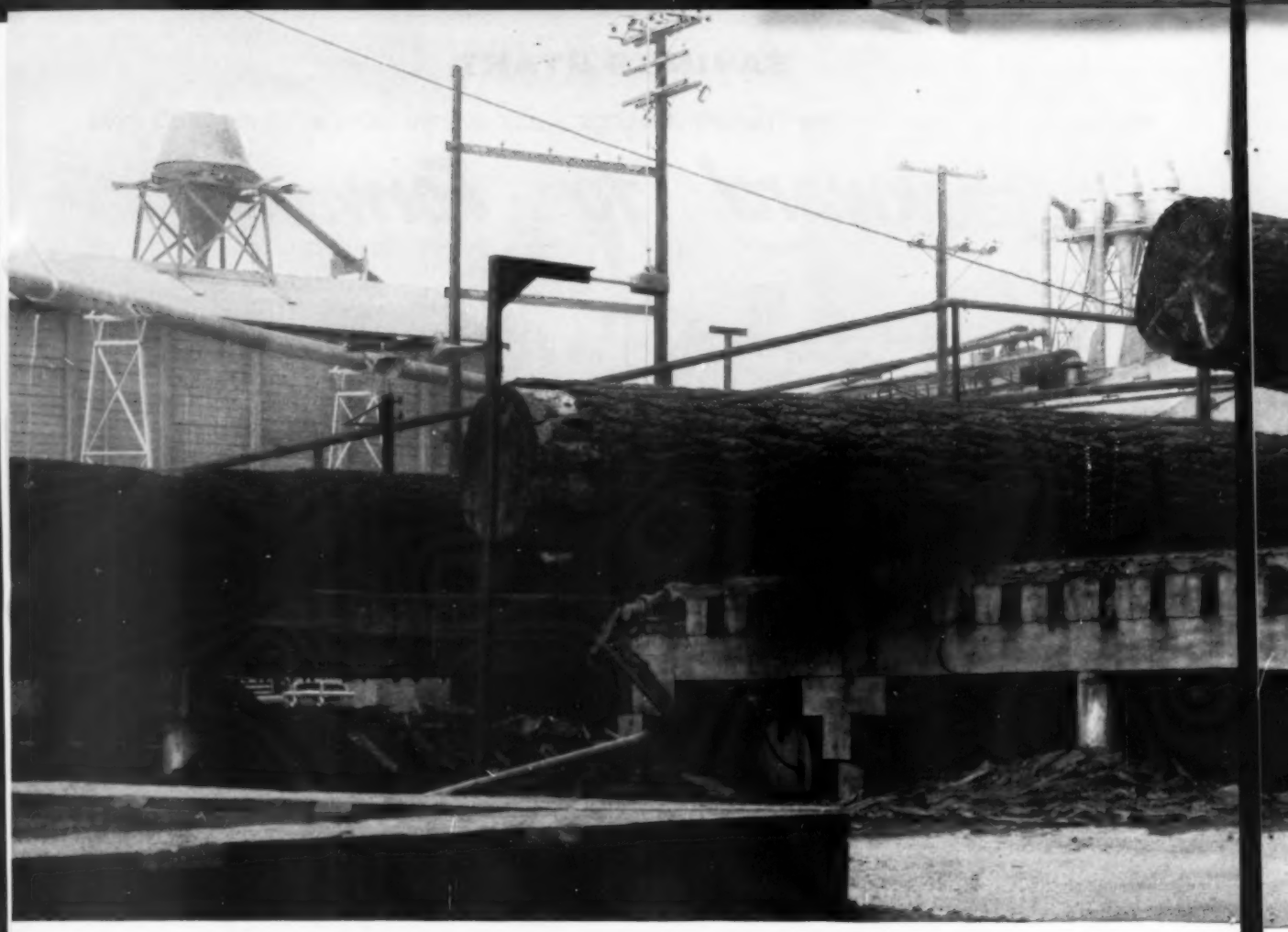
City ..... State .....

ALEMITE
REG. U. S. PAT. OFF.

A PRODUCT OF SW STEWART WARNER

Ask anyone in industry

A Product of STEWART-WARNER CORPORATION



Report on the MICHIGAN TRACTOR LOGGER:

New log handler features 27-mph speed, all-wheel drive, power-shift transmission

The new Michigan Model 175 Tractor Logger combines rubber-tired speed and mobility with outstanding traction and power for rough terrain operations. It will handle logs up to 6 feet in diameter and loads up to 20,000 lbs.

With its 27-mph travel speed and its ability to negotiate typical woodland terrain, the new Michigan shortens travel time required to reach practically any loading spot. Once on the job, its power-shift transmission and fast-acting log clamps cut loading cycle time to a minimum.

Power-shifting, 300% torque multiplication

The Tractor Logger power-train is a heavy-duty off-highway power-train which has proved its ability to handle the heavy torque requirements of earth-moving and mining operations. This power-train package consists of 3-to-1 torque converter, power-shift transmission and planetary-wheel drive axles. All components are designed, built and serviced by Clark. Since the Tractor Logger is a production machine, spare parts are readily obtainable.

Better traction and flotation

The torque converter automatically boosts torque output up to 300%, gives you the extra torque to pull through rough terrain. There's no engine clutch or pedal; instead, two power-shift levers on the steering column give you instant shifts between High-Low and Forward-Reverse even when moving in either direction.

The planetary-wheel drive axles take 70% of the torque load off the shafts, carry a shockless flow of power right to the big 18.00-25 20-ply tires. The oscillating steering-drive axle (which can be declutched for highway travel) maintains ground contact in uneven terrain. A full 19-inches of ground clearance makes it practically impossible to get hung up.

Special log clamps

Hydraulic log clamps will handle a log 6-ft. in diameter or several smaller logs. The forks can be raised to a maximum height of 11 ft. 7 inches; they can be tilted downward to enable the operator to reach over a row of logs and select one for pick-up. Spikes on the bottom of the clamps permit the operator to get a good grip on any selected log.

Three engine options

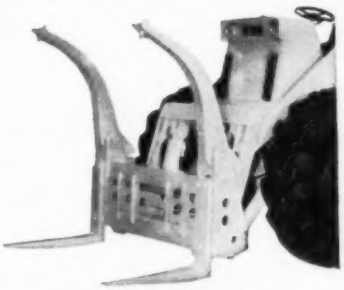
The 34,000 lb. Tractor Logger is available with 127 hp gasoline engine, 133 hp diesel or 165 hp turbocharged diesel. A 24-volt electrical system is standard on the diesel models. Hydraulic-operated winch, with 28,000 lb. line pull at 46 feet per minute, is an optional accessory.

Speed and maneuverability

No other mobile log-handling unit can match the Michigan Tractor Logger in speed, maneuverability and traction. The machine is versatile: works equally well loading trucks in the woods, unloading at reload stations or mill, cold decking and feeding logs to the mill deck or pond.

Ask for demonstration

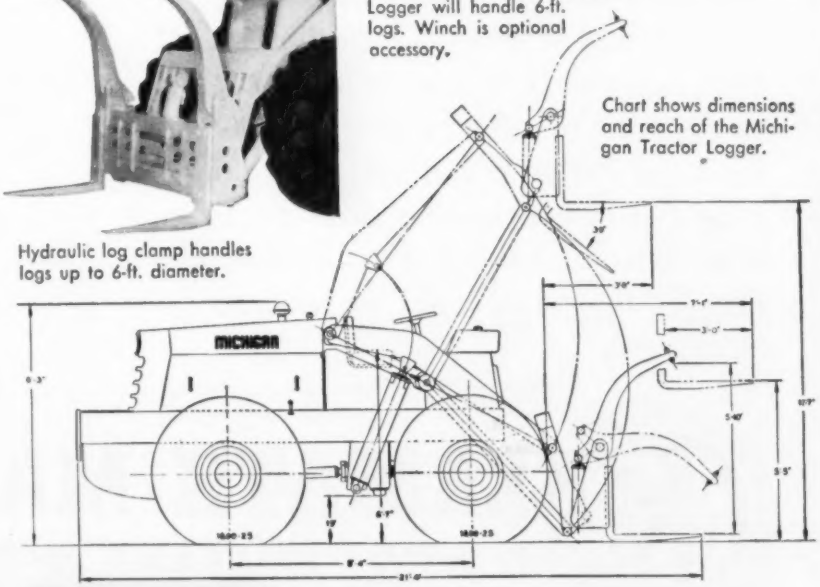
The best way to find out what the new Tractor Logger will do is to see it! Ask your local Michigan distributor to set up a demonstration for you. Or write direct for detailed specification sheet.



Hydraulic log clamp handles logs up to 6-ft. diameter.

Michigan Tractor Logger places sinker type peelers on transfer deck at U. S. Plywood Corp., Anderson, Calif. All-wheel drive Tractor Logger will handle 6-ft. logs. Winch is optional accessory.

Chart shows dimensions and reach of the Michigan Tractor Logger.



CLARK® EQUIPMENT

Michigan is a registered trade mark of

CLARK EQUIPMENT COMPANY
Construction Machinery Division
2483 Pipestone Road, Benton Harbor 32, Michigan

Accurate Rugged Dependable

KLAMATH MACHINE
LINE BAR

The KLAMATH MACHINE Line Bar is self-contained, heavy-duty, trouble-free. It is equipped with one fluted and four spiral feed rolls, two power driven press rolls, rack and pinion type set works. If desired, press rolls may be provided with an air cylinder for power opening, so that the Line Bar can be used as an edger to split boards from 1″ to 24″ in thickness. *More detailed information will be sent promptly on request.*

ASK FOR THIS *NEW* CATALOG

Our Catalog carefully describes and illustrates the Line Bar. The full line of KLAMATH MACHINE Sawmill Machinery is described and illustrated in this *new and carefully prepared* CATALOG. A copy will be sent to responsible sawmill operators on request.

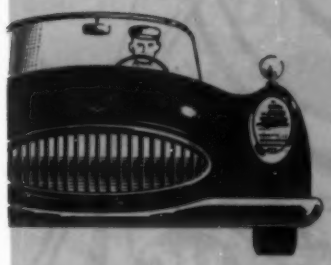
Representatives in Washington, Montana and Northern Idaho: AIR MAC, Inc., 3838 Fourth Avenue South, Seattle 4, Washington *and* AIR MAC, Inc., E. 3710 Trent Avenue, Spokane 10, Washington.

KLAMATH MACHINE & LOCOMOTIVE WORKS INC.

P. O. BOX 208 • KLAMATH FALLS, OREGON, U. S. A.

Look for the Indian Head on all **KLAMATH MACHINE** *products*

Export Division: FRAZAR & HANSEN, Ltd., 301 Clay Street, San Francisco 11, California, U.S.A.



Fast...smooth...a pleasure to handle...

New Nicholson Round Smooth Spiral Cut Chain Saw File

"Champion" in its field, this great new file was tested against other leading files by chain saw manufacturers. To insure impartiality, all files were unbranded. In every test, the new Nicholson Round Smooth Spiral Cut was judged SMOOTHEST-FEELING, FASTEST-CUTTING, BEST-FINISHING of all files tested!

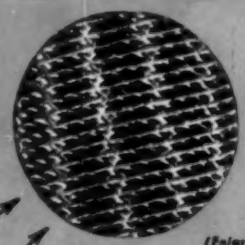
Experienced file users report that the new Nicholson Round Smooth Spiral Cut has a pleasingly crisp "bite," and a velvety action without chatter, and dresses teeth mirror-smooth with amazing quickness. This unusual combination of file features is the result of extensive research and development in the laboratory of Nicholson File Company—the world's foremost file manufacturer.

ORDER BY THESE NUMBERS FROM YOUR CHAIN SAW SUPPLIER:

183—3/16" dia.	189—9/32" dia.
1835—7/32" dia.	185—5/16" dia.
184—1/4" dia.	186—3/8" dia.

NICHOLSON FILE COMPANY
Providence, Rhode Island
(In Canada: Nicholson File Company of Canada Ltd., Port Hope, Ontario)

HOW THE NICHOLSON ROUND SMOOTH WORKS



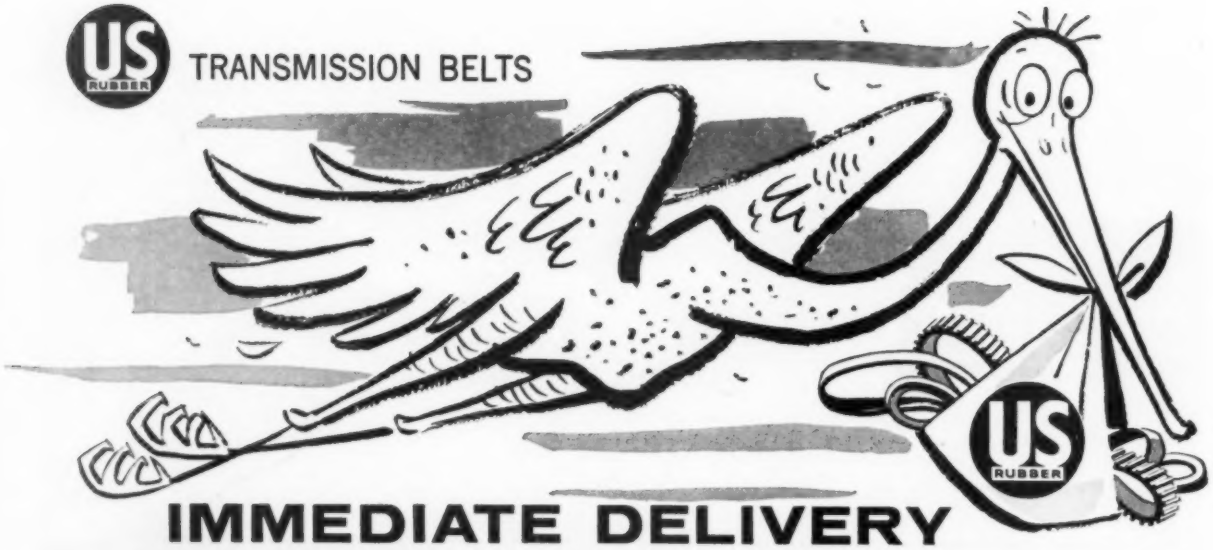
(Enlarged 6 times to show tooth structure)

SPIRAL TEETH are in continuous contact with work for smooth, chatter-free action.

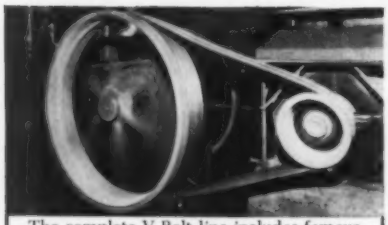
STRAIGHT-BACKED TEETH with slight negative face angle give crisp, extremely fast cutting.

NICHOLSON FILES *A FILE FOR EVERY PURPOSE*

US RUBBER TRANSMISSION BELTS



IMMEDIATE DELIVERY from a Complete Line



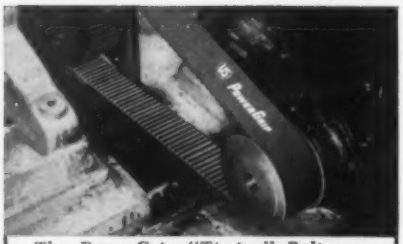
The complete V-Belt line includes famous U.S. Rainbow®, U.S. Royal Super-Service, and fractional horsepower belts (made by the error-proof Electronic Tension method to eliminate vibration, increase service life).

FLAT BELTS
V-BELTS
TIMING BELTS
All Sheaves and Pulleys

"U.S." Flat Belts come in special cord-constructed endless lengths or in duck roll belting. "U.S." production techniques guarantee *quality* performance.

"U.S." is really geared to deliver. You really get immediate delivery or shipment—thanks to your local "U.S." distributor backed by the strategically located District Sales Offices and transcontinental chain of warehouses. The "U.S." Transmission Line includes flat belts and belting, V-belts, sheaves, and PowerGrip "Timing"® Belts and pulleys for any power transmission need.

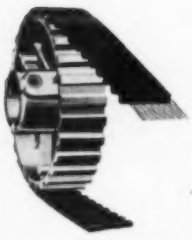
These belts, sheaves and pulleys—plus expert engineering assistance by power transmission specialists—are available at "U.S." power transmission distributors, any of our 28 District Sales Offices, or write us at Rockefeller Center, New York 20, N. Y.



The PowerGrip "Timing" Belt was awarded the Franklin Institute's 1955 Longstreth Medal—for "invention of high order." By providing near-100% efficiency in positive, non-slip, split-second timing, it has become standard equipment in a wide variety of machines and appliances.

V-Belt Sheaves and "TIMING" Belt Pulleys

are tested for static balance and engineered to deliver the high durability and efficiency that are built into every "U.S." Belt.



US RUBBER **Mechanical Goods Division**

United States Rubber

Would you slice bread with a sword?

You could, but you would do a better job with a bread knife. Whatever the job, the right knife does it best! The right knife for your chipping operation is an "OK BATTLE AXE". It's especially designed to do the job best, to give maximum production of uniform chips with a minimum of sawdust and splinters.

Special high alloy steel, hardened in salt furnaces and carefully tempered, gives every "OK BATTLE AXE" blade its extra toughness, its extra-long edge life. To you, this means longer runs between grindings.

"OK BATTLE AXE" knives are made to customer's requirements and complete records are kept to assure exact duplication of original orders without delay.

Ohio Knife Co. field service men, experienced in chipping operations, can be sent to your mill to analyze your particular chipping problems and recommend correct tempers, bevels, etc. to best suit the job. No obligation, of course.

For complete information on "OK BATTLE AXE" Chipper Knives, write Dept. 49-R

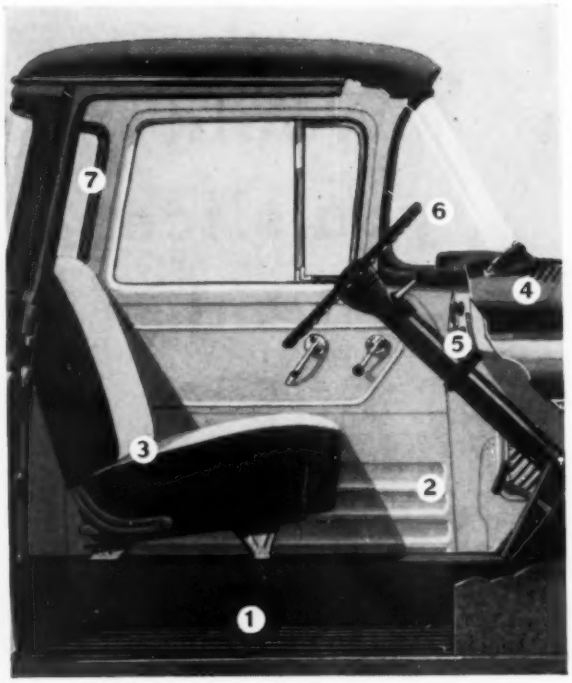
THE OHIO KNIFE CO.

CINCINNATI 23, OHIO

Manufacturers of OK HOG KNIVES, VENEER KNIVES, CHIPPER KNIVES, PLANER KNIVES.

This cab lets you TAKE IT EASY on tough jobs!

Modern features in new Chevrolet truck Flite-Ride cabs make your work easier and safer than ever before . . . give you the pleasure and prestige of style that equals many passenger cars!



Those numbers in the picture (right) point out features that make business almost a *pleasure* when you work behind the wheel of a modern Chevrolet Task-Force truck! Here are some of the reasons why hauling in a Chevy is *easy on you:*

❶ *Concealed Safety Steps*—located *inside* the doors—stay clear of snow, mud, and ice, give you firmer, safer footing. ❷ *Spacious leg room* helps keep you comfortable all day long, brings you home fresher and more relaxed. ❸ *Nu-Flex seat* design means *comfortable* hauling! Jackstringer springs give ideal body support; seat back adjusts easily. ❹ *High-Level ventilation system* keeps the cab interior clean, cool, comfortable. Intake is at the bottom of the windshield—away from road heat and dust. ❺ *No-Glare instrument panel*, with handsome two-tone finish, puts instruments and controls within easy sight and reach. ❻ *Panoramic windshield* provides a full 1000 square inches of forward viewing area to make driving safer, easier. ❼ *Full-View rear window** adds to safe, convenient viewing as well as truck style.

And you'll find bright, stylish interior appointments that add to your sense of pleasure on the job. If your work calls for long hours on the road, you'll enjoy life more in a Flite-Ride cab! Check one over for yourself at your Chevrolet dealer's. . . . Chevrolet Division of General Motors, Detroit 2, Michigan.

**Optional at extra cost.*

They're the work champs of their class—with new V8's, automatic transmissions for every truck model!

You get *modern* power-performance in these Chevy medium-duty models! Compact short-stroke V8's do more work yet keep costs down. ***Hydra-Matic*** transmission† gives you no-shift hauling, reduced maintenance. And there's great ***Powermatic***‡—the first automatic transmission designed specially for big trucks!

†Optional, extra cost, Series 3000-4000 models. ‡Optional, extra cost, Series 5000 through 10000 truck models.

CHEVROLET

NEW CHEVROLET TASK·FORCE TRUCKS

Anything less is an old-fashioned truck!

CHAIN BELT answers your wood-handling problems...

REX®

Chabelco®

... the chain that lasts and lasts on the toughest conveying jobs

Here is a chain practically immune to wear. On pulpwood conveyors, or other similar rugged conveying jobs involving abrasion, corrosion, sharp impact and heavy loads, Rex Chabelco is your money-wise choice.

Why? First, because this chain is specially designed for abrasive, sliding, heavy-load use. It is a steel fabricated chain, made from toughest steel, using the latest fabricating methods and hardening processes to insure *extra* quality, strength and stamina.

Next, this chain is precision made to last longer and give smooth, efficient sprocket action. Lastly, this chain saves valuable production time with a simple 3-Diameter Pin that makes assembly and disassembly fast and easy.

Even if you are satisfied with the chain you now use, chances are Rex Chabelco can give you longer service at lower cost. For those really tough conveying jobs, investigate Rex Chabelco.

Rex Chabelco Steel Conveyor Chain. Average ultimate strengths range from 25,000 to 100,000 pounds.

- ***Matched, hardened wearing surfaces*** **eliminate weak spots ... give you a tough, long-lasting, trouble-free chain.**
- ***3-Diameter Pin*** **makes assembly and disassembly quick and easy — cuts down-time and repair costs to an absolute minimum.**
- ***Heavy-duty, steel-fabricated*** **design and construction. Resists the severe conditions of dust, dirt or shock loads.**
- ***Precision made*** **to last longer, give more efficient sprocket action. Available with straight or offset side bars.**

AND FOR YOUR OTHER CHAIN AND CONVEYING NEEDS—

CHAIN BELT COMPANY

LEADERSHIP ... through creative engineering

CHAIN BELT has the answer to lower costs for every WOOD HANDLING job!

• Here, from the *complete* line of CHAIN Belt products you will find the answer to your power transmission, conveying or elevating problems. Not only will you find the exact chain, idler or bearing to fit your work — you will find the highest quality and dependability . . . quality built on over half a century's experience supplying the forest products industry.

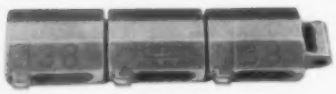
Carefully selected metals . . . skillful hardening or heat-treatment . . . experienced workmanship and design . . . combine to produce the finest products — products that give you longer service, reduce down-time and cut maintenance costs. Whatever your wood handling problem, CHAIN Belt will give you the cost-cutting answers.

Rex H-Type Mill Chain — Most popular of all sawmill size chains for conveyor use. A tough, versatile chain with special wearing shoes for sliding.

Rex H-Type Mill Conveyor Chains—Used for conveying slabs, chips, sawdust and refuse. Heavy, one-piece links with thick barrel provide long wear and good scraping action.

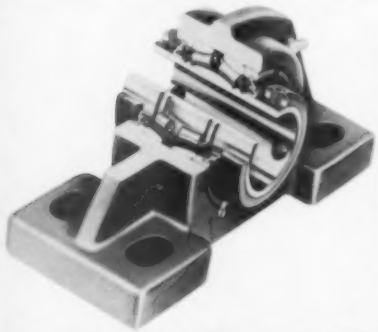
Rex Durobar and Combination Chains — A proven standard for wood handling service. Eccentric barrel of Durobar chain reduces wear on both chain and sprockets.

Rex Roller Drive Chain—The ultimate in high-speed drive chain. Highly flexible to withstand heavy shock loads. Precision-made for longest life. Available in single or multiple strands for a variety of drive uses.

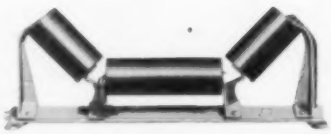


Rex Roof-Top Transfer Chains — Primarily a green chain, but frequently found in sawmill transfer service. Choice of peaked or flat roof-top design. Flat roof generally used for handling finished lumber as it will not score.

Rex Chabelco Chains — For severe conveyor service, Rex Chabelco Chains are first choice. Available in both straight and offset side bar construction. Also special Chabelco Chains designed for log deck, log haul-up, trimmer, etc. service.



Shafer Self-Aligning Roller Bearings — These bearings combine the best advantages of the roller and the ball by using concave rollers operating between convex races. Their stamina and dependability have been proved under extreme load conditions found in the lumber and pulp industries. Their reserve capacity is your assurance of longest life and continuous peak performance.



Rex Style No. 46 Troughing Idler — Specially designed for handling wood chips. Concentrating rolls of the idler are sloped at 45° to provide exceptional carrying capacity. This feature permits loading of chips close to the belt edge without spillage and gives the belt additional carrying capacity when compared to the conventional 20° sloped idlers.

CHAIN Belt Company
Dept. FP-4
Milwaukee 1, Wisconsin

☐ Please send catalog on Rex products for the Forest Products Industry.

☐ I would like to discuss my wood handling problems with a CHAIN Belt District Sales Engineer.

Name.....

Company.....

Address.....

City..... State.....

CHAIN BELT COMPANY

MILWAUKEE 1, WISCONSIN

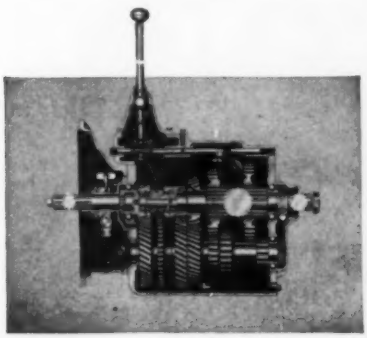
Skidder with FULLER Transmission keeps mill supplied despite mud and water

M and C Logging Co., Williams Lake, B. C., used this new D Tournapull Logging Arch equipped with a 5-speed Fuller 5-A-650 Transmission to keep logs moving through the wet summer of 1954.

Many plants, because of the weather, suspended operations or cut output drastically, but M and C Logging Co. kept up steady production. Owner J. Z. Miller credits the Fuller Transmission equipped skidder as being the only machine that could have kept his mill supplied that summer. It worked beautifully on a 1¼-mile log haul, even during the worst of the wet season.

The skidder drove out of soft spots where other haulers became buried. Engine power was delivered efficiently and effectively through the Fuller 5-speed Transmission. With complete control of power application through Fuller gearing, M and C literally "walked" the skidder around soft spots and out of trouble.

Whatever *your* job . . . there's a Fuller Transmission designed to do it profitably, efficiently. Specify Fuller Transmissions for your equipment.



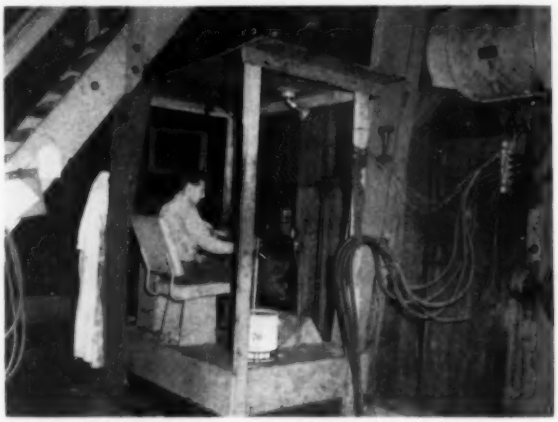
FULLER MANUFACTURING COMPANY
Transmission Division, Kalamazoo, Michigan

Unit Drop Forge Division, Milwaukee 1, Wisconsin • Shuler Axle Company, Louisville, Kentucky (Subsidiary) • Sales & Service, All Products, Western District Branch, Oakland 6, California and Southwest District Office, Tulsa 3, Oklahoma.

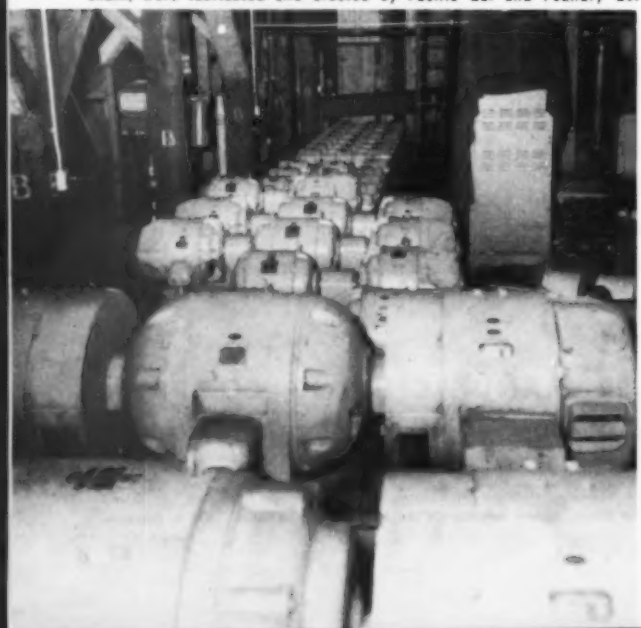
City..... State.....

MAIN AREA OF SIMPSON Logging Co.'s new central barking plant at Shelton, Wash. In center is 60-in. Nicholson mechanical Roto-barker. Logs enter from water storage at right; are transferred by air kickers to barker log deck. Logs emerging from barker are handled: (1) fir logs go to No. 2 sawmill; (2) hemlock logs are returned to water (left) for use at No. 1 sawmill; (3) fir logs with peeler butts are cut by L-M chain saw into blocks, go to water storage for shipment to plywood mills. Three operators work here: (A) incoming log haul control operator; (B) outgoing log haul operator between barkerman and peeler saw unit. Barkerman left of Barker.

VIEW FROM PUGET Sound side shows log entrance and exit of central barking plant. 20-ft. tides dictated height of plant. Log hauls (incoming at right; outgoing at left) have ESCO manganese chain, ware fabricated and erected by Pacific Car and Foundry Co.

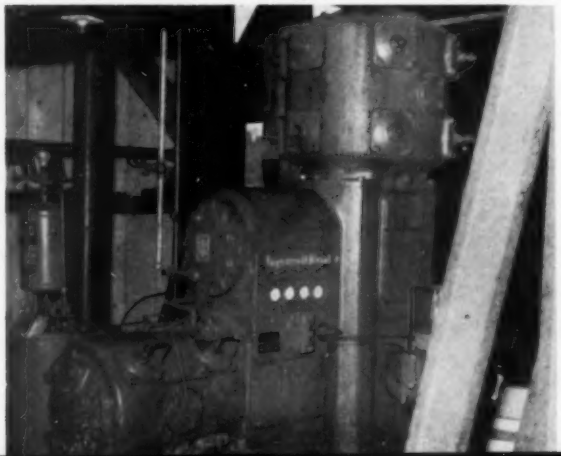


ABOVE: BARKERMAN NORVAL BINA. Barker electrical controls were built by Nicholson Mfg. Co. and the log haul electrical controls were designed and manufactured for Simpson by C. Kirk Hillman. The scaler, stationed ahead of barkerman, informs operator where log should be sent by using a color code on end of each log.



← LEFT: "HEART-BEAT" of barking plant—a bank of C. Kirk Hillman DC drives and generator sets. All drives are DC powered except refuse conveyors, air compressors, hydraulic power units.

BELOW: INGERSOLL-RAND 150 hp. type XLE air compressor which furnishes all air for Simpson's central barking plant.



VOLUME 83 NUMBER 9

THE Lumberman

AUGUST, 1956

Central Plant Barks All Logs

System using DC variable speed drives serves two sawmills and two plywood plants in Washington.

FLEXIBILITY, LARGE CAPACITY, unusual features—these characterize what is probably the largest whole log barking installation made anywhere, recently placed in production by the Simpson Logging Co., at its Shelton, Wash., operations.

This new plant, with an eight hour capacity of 350,000 board feet, barks all the logs used in two sawmills (one cutting hemlock, the other fir) and all the blocks used in two plywood plants, one at Shelton and one at McCleary, Wash. The barking plant normally operates on a two shift basis.

Simpson management and the operating staff are expecting "great" things from this new barking plant. In addition to the usual lumber production advantages derived from having barked logs in the sawmill, the management expects the plant will result in the best possible use of each log and a maximum yield of chips.

THE KEY MAN in the plant is the scaler, stationed ahead of the barker. It is his duty to determine ultimate destination of each log. By using a color code on the end of each log the scaler has little trouble in informing the barker operator where the log should be sent.

Suppose a 40-foot log, standard for this operation, comes up the steel log haul and enters the 60-inch Nicholson Rotobarker. The scaler has decided this log is best suited for lumber, so after going through the barker it is immediately diverted to the No. 2 fir sawmill by the barker operator.

The next log comes up. The scaler decides the butt end contains a good peeler block. With the flip of a lever by the barker operator the log goes in another direction and past an L-M Equipment Co. saw which will cut the peeler block to the correct length. The block passes out of the mill on an "out log haul" and into the water, while the rest of the log is sent to the sawmill by means of chain transfers.

Normally the rafts are separated as to fir and hemlock. The plant, therefore, will be working on either one or other species for considerable periods of time. In the case of fir, barked logs pass into the sawmill where there is considerable space for storage of barked logs.

WHEN BARKING HEMLOCK, logs are sent out of the mill on a return chain and the "out log haul" and into the water, and then moved to the No. 1 or hemlock sawmill by a Nichols boom boat.

In case a log too large for the barker comes up the log haul, the facilities are such that without any delay or trouble it will be sent right into the sawmill with the bark on. And in case some trouble should develop in the barking unit, the sawmill can still be supplied with unbarked logs until the barker gets back into operation.

An unusual feature of this plant is that all the equipment except the refuse conveyors, air compressor and hydraulic power units have variable speed and are operated by Direct Current motors supplied by C. Kirk Hillman Co. Details appear elsewhere in this article.

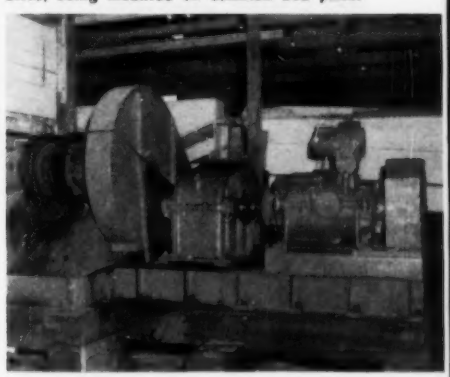
The operating crew of this new barker unit consists of ten men each shift as follows: four pond men, one deck man, one barkerman, one block sawyer and deck man; one pond boat operator, one scaler. The barker is under the supervision of L. D. Sergeant, barker foreman.

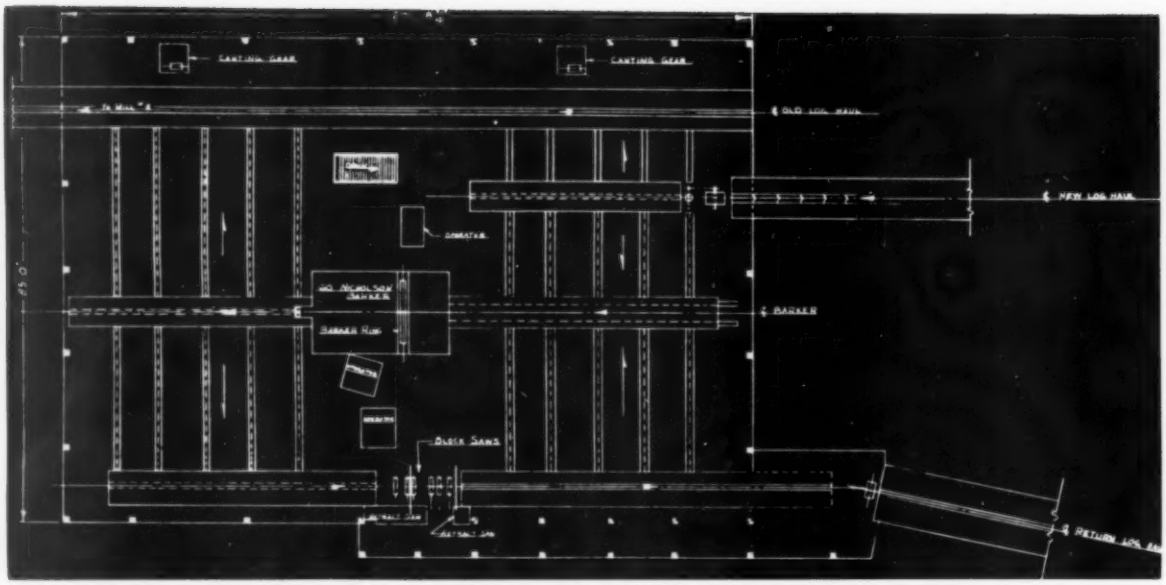
A NEW FEATURE in the plant is the log haul drive. The mill floor is high because of the twenty-foot tide that has to be taken into consideration, so the log haul is steep. It requires a lot of power and a dependable trouble-free mechanism was needed. Western Gear Corporation supplied an integrated drive, including herringbone

TRAILMOBILE chip trailers being loaded with chips for haul to Port Angeles. Walter Junge, Fibreboard contractor, operates trucks.

O. J. ASHFORD, resident engineer, points to the barker plant location on an air map of the Simpson properties in Shelton, Wash.

WESTERN GEAR's new integrated log haul drive installed in barking plant. Two such drives are used: one powers main log haul; one powers deck and transfer conveyors. Main features include totally enclosed gear drive, being mounted on common bed plate.





MACHINERY FLOOR PLAN of Central Barking Plant, Simpson Logging Company, Shelton, Washington.

speed reducer, enclosed spur gear drive, and bronze angle bearings, mounted on a common bed plate to fill the rigid requirements. The electric power is obtained from a 75 hp. DC variable speed motor.

The bark from the new mill is hogged and conveyed to the big power plant. Sawmill slabs are all chipped. Hemlock and fir chips are kept separated at bins adjacent to the company's softboard mill, which utilizes both fir and hemlock chips. Currently surplus chips are either shipped by scow to Crown Zellerbach at Port Townsend, Wash., or trucked to the Fibreboard Products Inc. paper board mill at Port Angeles, Wash., a round trip haul of about 200 miles. The chips shipped to Port Angeles are hauled in a fleet of Trailmobile trailers operated by Walter A. Junge of Sumner, Wash.

IVAN G. MYERS, project engineer, who had charge of design and erection of the plant.

Electrical Details

Direct Current variable speed drives are used on all of the live deck conveyors and chains in the plant as well as on the barker itself. Each conveyor or chain is controlled from one of the three central locations and each drive has full reversing control as well as variable speed. This provides smooth controlled acceleration and speed settings coordinated with the flow of the logs through the plant. Extreme flexibility is attained and maximum production assured.

The main log haul is driven by a 75 hp. DC motor and the long chain carrying the logs into the mill is rated at 50 hp. DC. The barker feed is driven by a 60 hp. DC motor, and the ring drive is rated at 125 hp. For maximum interchangeability, all of the deck drives are driven by identical 20 hp. DC gear motors with 30 rpm output. H. L. Hadsell, chief electrician for the Simpson Logging Co., was instrumental in the design and installation of the DC variable speed drives. The C. Kirk Hillman Co. of Seattle, Wash., designed, manufactured and supplied all of the electrical control components, motors, motor generator sets, and exciter units for the deck, chain, and barker drives.

THE PLANT WAS DESIGNED and engineered by the company's engineering staff. O. J. Ashford is resident engineer; Ivan Myers was project engineer. W. H. Rambo, mill designer, was consultant.

On the management side all hands from C. H. Bacon, Jr., vice president; Hal McClary, manager of production and sales; H. D. McKay, plant manager of sawmills, are enthusiastic over the new barking plant.

It is expected that nearly all logs used in the company's two plywood plants will be barked in this central plant. However, existing barking equipment at both the Shelton and the McCleary plywood plants will remain intact to bark blocks too large for the central plant or blocks purchased and shipped to the mills direct. The blocks of the McCleary plant are loaded aboard freight cars at Shelton. Blocks for the Shelton mill are towed by the boom boat.

(Continued on page 113)

LOG CLIMBING all-steel (Pacific Car & Foundry) log haul. ESCO chain and flights.

ROUND LINK manganese chain and flights on refuse conveyor are also furnished by ESCO.

M. M. MILLER, operator of incoming barker log haul. Controls are by C. Kirk Hillman.

Machine Chips Eucalyptus

Portable chipper for pulp operates in scattered tracts in California

EUCALYPTUS LOGS are fed manually from deck of Fibreboard Products' Sumner portable chipping units, onto the four-row Rex H78 chain conveyor taking logs to the Model 45 Sumner hog.

CHIPS ARE LOADED into the Trailmobile open van type trailer for the 120-mile haul from Salinas, where portable unit is contract operated by Fred Ash & Sons, to Antioch, California.

FIBREBOARD PRODUCTS INC., San Francisco, nation wide manufacturer of many types of paperboard cartons and containers, and long a leader in forest conservation, has found a use for one of California's unutilized woods—eucalyptus.

Eucalyptus, a native of Australia, was planted in the early days in the state for use as windbreaks, and in plantations for commercial uses that failed to materialize. As a result, from the Mexican border through the central part of the state, there are various stands of eucalyptus growing, mostly in the valleys and rolling foothills.

As is well known, eucalyptus has been used for a number of years as pulp material in Australia. It occurred to Fibreboard officials that California's stands of the species might be put to the same use on account of its fast growth and the fact that they were looking for wood sources close to the Antioch, California mill where other species were unavailable.

Pulping analyses carried on by both Fibreboard and the Institute of Paper Chemistry indicated that the wood was suitable for use in the Asplund semi-chemical pulping process.

Fibreboard officials decided the best way to harvest the trees would be to chip the material under 12 inches in diameter in the field, since a large proportion of the per acre volume is in small trees and limbs under this size. Many eucalyptus groves also are in semi-urban localities and on farms where good clean-up procedure is imperative. Logs over 12-inch diameter are handled by conventional methods.

FIBREBOARD THINKING led to a portable chipper, which was designed by Marion Fish, Chief Engineer, and Cy Riddell, Assistant Chief Engineer, Sumner Iron Works, Everett, Washington, in conjunction with Fibreboard's Timber Division.

The complete chipping plant, consisting of a Sumner Model 45 hog, driven by twin GM 4-71 through belts, the chip conveyor for loading trucks and the log conveyor, can be transported on a Fruehauf low bed trailer. The entire plant is 8 feet wide, 34 feet long, and weighs approximately 40,-500 pounds.

The chip conveyor, which is made of Rex chain, and the log conveyor drive, are both powered with hydraulic motors.

Fred Ash and Sons, long time log suppliers to Fibreboard, are operating the unit under contract near Salinas, California.

Falling, bucking and limbing are done mostly with Homelite gas saws. Logs are skidded in tree length with a caterpillar D6 to a central bucking and limbing area. A Caterpillar D4 equipped with front end fork lift log loader lifts material 10 inches diameter or under to a deck, and the material is fed manually onto a log haul which consists of four rows of Rex H78 chain which feeds the material into the Sumner hog. It is planned to add a live log deck to speed up the operation and cut down on manpower.

LOGS OVER 10 INCHES diameter are hauled direct to Antioch via two Mack logging trucks and conventional logging trailers. Material under 4 inches diameter, along with small branches, leaves, etc., is piled and burned.

The chip conveyor deposits the ⅝ inch long chips in an open van type Trailmobile trailer which can carry eight units (200 cubic feet per unit) of chips, to the mill at Antioch, about a 120 mile haul. Hauling is done by Seaboard Transportation Co., Antioch, which does other hauling for Fibreboard, and can put as many trucks into the chip hauling as are needed. There are usually from three to six trucks on the job daily, depending on the length of haul. The chipper has a capacity of about 8 to 10 units per hour.

It takes about a day to pick up the unit and move to a new setting. Fred Ash & Sons use three men on the chipper unit, two fallers, a general utility man, and two cat skinners.

The portable chipping operation is under the direction of W. B. Lindberg, in charge of wood procurement for the San Joaquin Division at East Antioch, California.

Foresters Try For Better Forests From Tree Seeds . . .

• Throughout the United States, forest genetics programs aim at improving form quality, growth rate and reproductive capacity of native and exotic species.

FIRST STEP to obtain genetically controlled seedlings is to harvest cones from seed orchards and selected parents. Here is part of harvest in West Virginia Pulp & Paper's seed barns.

GENETICS HOLDS GREAT promise of improving the commercial forest tree species in America. It also holds the key to development of new hybrids of trees that could become important in the distant future, particularly as private industry's and public agencies' interest in reforestation projects expands.

Man is at the mercy of nature in obtaining his supplies of commercial forest tree seed. When various known and unknown factors favorably combine there is a "good seed year". The woods then are literally covered with cone collectors. But in the poor-to-bad seed years, foresters shake their heads and hope next year will be better.

In past years, foresters have been content to gather their seed haphazardly from the run-of-the-woods tree. All forest trees, a wild resource, were considered equally good for producing the seed which at costly nurseries was germinated and grown into the thousands of seedlings used to reforest areas whose natural seed sources had been destroyed.

Planting this land costs money, anywhere from $15 to $25 an acre. It takes from 30 to 100 years to mature a harvestable crop, depending on the end uses in mind. Good forest management no longer considers it prudent to plant seedlings whose parentage was such that the offspring by heredity will be poorly formed, too slow growing, disease and insect susceptible and with the wrong fiber and structural properties for certain end uses.

CLOSE-UP OF extracted seeds from which will spring tomorrow's trees, major source of raw material for the wood-using industries.

THAT'S WHY FOREST science today is turning to the application of genetics to improve the quantity and quality of the raw material in Americas wood basket 50 and 100 years hence.

Genetics, broadly speaking, is the science of heredity. Applied to forestry, genetics seeks to discover more of the fundamentals involved in passing down desirable characteristics from one generation to another. It is a very detailed complex study with an infinite number of variables.

It takes a great deal of technical training and skill to be a geneticist. There are but a handful of full-time forest geneticists in the country, but the list is growing.

Practical application of genetics throughout the agricultural and horticultural fields is well established and has been widely publicized. Genetics has also been useful in experiments with small mammals in the study of human diseases. However, exploits in genetics in commercial tree species are, in general, not widely known or understood. It's an unspectacular profession carried on in the quietness of laboratories and among the solitude of nursery beds, but its portent staggers the imagination.

ANYONE PLANTING TREES today stands to profit considerably through recognizing the principles of inheritance in selecting the trees from which he collects seed. Every tree is the product of the interaction of its inheritance and its environment. Each seed tree should be examined with that in mind.

Remodeling and restyling America's future tree crop is getting to be big busines, through the geneticist's cross breeding, grafting and seed orchard techniques. Loggers, lumbermen, plywood manufacturers and everyone else in the forest industries have a stake in the success of tree improvement programs. Every integrated company (i.e., with their own commercial forest land and manufacturing facilities) will find an honest challenge in forest genetics. Private industry, in many instances, already is conducting its own research with its own money to improve its raw material position.

THE LUMBERMAN presents in the following pages a timely, concise report on the highlights of tree improvement work around the country.

Silviculturist Emphasizes Need For Better Trees

By LEO A. ISAAC

• **RECENT FIGURES SHOW** that there are 52 million acres of forest land in the United States in need of planting; 2½ million of these are in the Pacific Northwest. In addition, some areas now being logged may not restock naturally and will require planting. Foresters and timberland owners must decide whether they will be content to plant these millions of acres with stock from seed of undeveloped wild forest trees, or whether they will develop improved stock for planting as has been done with all other crop plants, including fruit and nut trees.

Forest treees offer the same opportunity for improvement through crossbreeding as other crop plants. Unlike other plants, however, coniferous forest trees require many years to flower. And—unlike Nature's—our planting program cannot wait years to make the best use of crossbreeding. Therefore, we must develop an approach to complement crossbreeding, one that will provide immediate and continuing improvement in forest planting stock. While this is being done, the slower but more profound and spectacular work of crossbreeding for special characteristics should be carried on to provide even greater improvements in forest trees, just as has been done in other fields of plant culture.

Immediate improvement in planting stock can best be attained through a process of tree and stand selection. This is so because of the great variation in desirable characteristics that exists between strains in our natural stands and between individual trees within these strains. This is particularly true in the Douglas fir and ponderosa pine regions.

A TWO-WAY APPROACH is needed to get such a program of selection under way. First, areas with the very best natural strains of all species are set up as seed collection areas to supply the best available seed for immediate planting use. The second step is to select the very finest individual specimen trees as "plus trees." Selection is based on one or more of the following characteristics: growth rate, form, vigor, resistance to disease and insect attack, and wood quality. From these plus trees, planting stock can be developed by grafting and rooting for seed orchards that will provide even better seed for planting 10 to 20 years hence.

While the selection of better tree seed has not as yet found its way into use in this country to any great extent, the practice is not entirely new. It has developed in a period of over 50 years in Europe by the chance planting of noticeably bad strains and by the chance development of good seed areas. The latter resulted from the gradual and continuous removal of inferior individuals in good stands by thinning as they approached seed-bearing age. As such stands matured, only the finest specimens remained to produce seed for natural regeneration and the planting of new forests. In Germany and other parts of Central Europe, many such stands are certified today as seed collection areas.

In south Sweden and elsewhere in Europe about the turn of the century, thousands of acres were planted from seed of inferior or climatically unsuited strains of Scotch pine. Worthless stands resulted from this seed, while on adjoining lands excellent stands developed from better strains.

The Scandinavians profited from this experience and today are launched on a rapidly growing program of seed orchard development

Mr. Isaac is a leading silviculturist with the Pacific Northwest Forest and Range Expt. Station, Portland, Ore.

Why This Genetics Article?

The possibilities of tree improvement work caught the attention of Miller Freeman, late publisher of THE LUMBERMAN, in 1954, a year before his death. He felt that producers and processors of timber had just as great a stake in scientifically improved trees as did the foresters and researchers who actually carried out the development work.

Intrigued by the possibilities of better, faster-growing trees, he asked the staff to consider an article based on how better tree seed was being produced. His interest in the ability of foresters to improve their stock in trade was akin to his lifelong belief in the conservation and wise use of our natural resources.

Glossary of Genetics Terms

Forest Tree Improvement. That part of silviculture dealing with the production of better forest trees.

Forest Tree Breeding. Study and practice of forest tree improvement by artificial production of tree forms developed to meet the requirements of special uses and particular environments.

Forest Genetics. The special application of the laws of genetics to the breeding of improved forest trees.

Plus Trees. Those which have better growth rate, stem form and branch habit than their neighbors.

Elite Trees. A "proved" plus tree, whose offspring has carried thorugh the desirable characteristics.

Phenotype. How the tree looks.

Genotype. The sum of the genes or hereditary factors carried in each living cell of tree.

Clone. A group of plants propagated by cuttings or graftings from a single parent.

Progeny Test. Breeding behavior of a tree by a study of its seed progeny.

Seed Orchard. An area of plus or superior trees developed solely for seed production purposes. It is developed by grafting cuttings from plus trees onto root stock in the seed orchards.

Scion. The parent stock used in grafting work.

Hybrid. A cross between two species of trees, made to bring out the better qualities of both parent species.

JOHN W. DUFFIELD, technical director of Forest Industries Tree Nursery, Nisqually, Washington, grafts scion wood from a hemlock.

COLONEL W. B. GREELEY Forest Nursery, operated by the Industrial Forestry Association, at Nisqually, Washington. The Nursery has average annual capacity of 8 million seedlings. Around 90 percent of the seedlings are Douglas fir; small percentage of hemlock, spruce and true fir makes up the remaining 10 percent. (Photo: Western Ways, Inc., Corvallis, Oregon.)

JEFFREY PINES (lower line) and jeffrey pine x coulter pine (top line) in experimental plot at California F&R Experiment Station's Institute of Forest Genetics at Placerville.

and other species-improvement measures. Sweden has classified her forests and identified superior stands for propagation purposes. Plus trees have been located in all parts of the country and registered, and cuttings are being established in living archives to preserve the stock from each tree for future genetic use.

PONDEROSA PINE at left; ponderosa x Montezuma pine at right. Both are from same seed-tree, are 4 years old. Tests at Placerville show hybrid may thrive in mild climate areas.

HYPODERMIC SYRINGE pollinates protected pine flowers. (All Placerville photos: USFS.)

IN ADDITION TO WORK being done by public agencies in Sweden, private interests are taking part in the movement. One association, made up of 15 member companies, is known as "The Society for Practical Forest Improvement." Formed in 1941 under the direction of Tore Arnborg, this association established its first seed orchard in 1946. By 1954, it had completed plans for and partly established 24 seed orchards and had registered 2,000 plus trees in Scotch pine alone. Work of a similar nature is under way in other European countries and is now starting in the United States.

All native stands that occur over a wide natural range develop plus trees and superior (and inferior) strains. They also acquire specific climatic and environmental limitations that are hereditary in nature. These limitations make it unwise and often impossible to shift them arbitrarily from one part of their natural range to the other or from one climate to another, however short the distance. Although there are instances of trees being moved halfway around the world with astounding success, these are exceptions, not the rule. Classic examples of success are the growth of Monterey pine in the southern hemisphere and, to some extent, of Douglas fir in Europe.

Among forest trees in the Pacific Northwest, there is ample evidence of superior stands and plus trees with the same or greater opportunity for species improvement as is found elsewhere. There is also evidence of climatic and environmental limitations on these trees.

A test of Douglas fir strains has been under way here for the past 40 years. Strains from 13 localities have been tested side by side in plantations on 6 widely separated areas. Certain strains have shown themselves superior on most locations; others have been average or poorer. Some strains have made best development in the coast climate, while others have proved superior in the drier area between the Cascade and Coast Ranges.

STRAINS OF DOUGLAS FIR, western larch, lodgepole pine, and ponderosa pine brought from the dry area east of the Cascade Range to a moist zone west of the Cascades (Wind River Experimental Forest) have either made very poor growth or died with a 30-year period. Strains of the same species native to the Wind River Valley are very healthy and growing well in the immediate vicinity.

Test of ponderosa pine strains from all parts of its natural range in western United States sheds more light on the significance of seed source in the growth and development of a stand in a particular locality. In the Wind River plantation, which was established in 1928, the best strains are now more than double the poorer strains in both survival and growth, and the poorer strains appear to be still on the decline. Last year, a heavier-than-normal frost damaged one strain severely.

The foregoing illustrations are given to show the significance of seed source in a reforestation program. They indicate that to produce a better forest, or at least an acceptable one, seed should come not only from a good strain but from one that is climatically suited to the planting site. They show further that variations exist between natural strains and between individual trees within a single strain, and that much can be gained by careful selection of seed source.

Once superior strains are recognized for seed collection, the next opportunity to provide better seed is to improve these strains by cutting out the bad individual trees (pollen parents) within the stand—the slow growing, badly formed, or diseased trees. These stands should then produce better seed for immediate reforestation work. Plans have been drawn and work is under way to select and improve superior strains as seed collection areas on both national-forest and private land.

THE NEXT STEP TOWARD better seed is the selection of plus trees and establishment of seed orchards. To prevent inbreeding, a dozen or more plus trees are needed as parent trees for a single seed orchard. Since conifers usually do not commence producing seed in quantity before they are 15 or 20 years old, this seed source will not come into the picture for a decade or two. For that reason, the work of establishment should be carried on without delay. It has already been started in the southern pines and to some extent in the forest types of this region.

Since the selection of superior strains and plus trees was an entirely

new field for American tree species, it was necessary to draw somewhat on foreign experience at first and to map procedure as information accumulated. The work of selection, however, is now well under way in this country.

In the Pacific Northwest, available information has been summarized in two publications; Selecting Plus Trees for Our Seed Orchards, by J. W. Duffield of the Industrial Forestry Association, and Tentative Guides for the Selection of Plus Trees and Superior Stands in Douglas fir, by L. A. Isaac (Research Note 122, Pacific Northwest Forest and Range Experiment Station). Also, plans have been completed for a plus-tree register for the national forests and other timberland areas in the region. Private companies and public agencies alike are seeking superior trees on their lands and recording their location for future use.

Florida Develops Seed Orchards for the South

By DR. WANG CHI-WU and DR. THOMAS O. PERRY

THE FIRST "SUPERIOR" trees produced from an experiment in genetics sponsored by 14 Southern paper and lumber companies will be replanted this year. The project, called the Forest Genetics Research Program, was started a little over a year ago through interest generated by St. Regis and Buckeye Cellulose. Albert Ernest, vice president and Southern logging manager for St. Regis, and Donald Stevenson, woodlands manager for Buckeye, persuaded the Florida Forestry Association to get behind the project.

The major pulp and paper companies are coordinating their research in development of forest genetics at the University of Florida. This cooperative program is supervised by Dr. Thomas O. Perry and his assistant, Dr. Wang Chi-wu at the School of Forestry, University of Florida, Gainesville.

The Forest Genetics Program has the joint objectives of research, education, application of existing information regarding the role of genetics in forest trees.

PAPER COMPANIES which will donate $2,000 a year to the program, for equipment, staff, machinery, etc., are St. Regis, Buckeye, Union Bag, Rayonier, International Paper, Brunswick, Gair Woodlands, Hudson Pulp and Paper Co. and Container Corp. of America. Also taking part are Southern Plywoods, Inc., LaFloresta Perdida, Inc., Canal Timber Co., Weaver-Laughridge Lumber Co. and St. Johns County, Fla.

For the past two years major efforts of the program were devoted to developing seed orchards for the South. A large nursery was constructed at the Austin Cary Memorial Forest. At this nursery a crew of men graft cuttings from outstanding trees. The foresters of the cooperating companies have located over 1200 outstanding trees on their properties. Over 4,500 grafts were made last winter with cuttings from the best 270 of these trees. These 270 trees have an average growth rate of 2.7 times as fast as the trees around them of the same age.

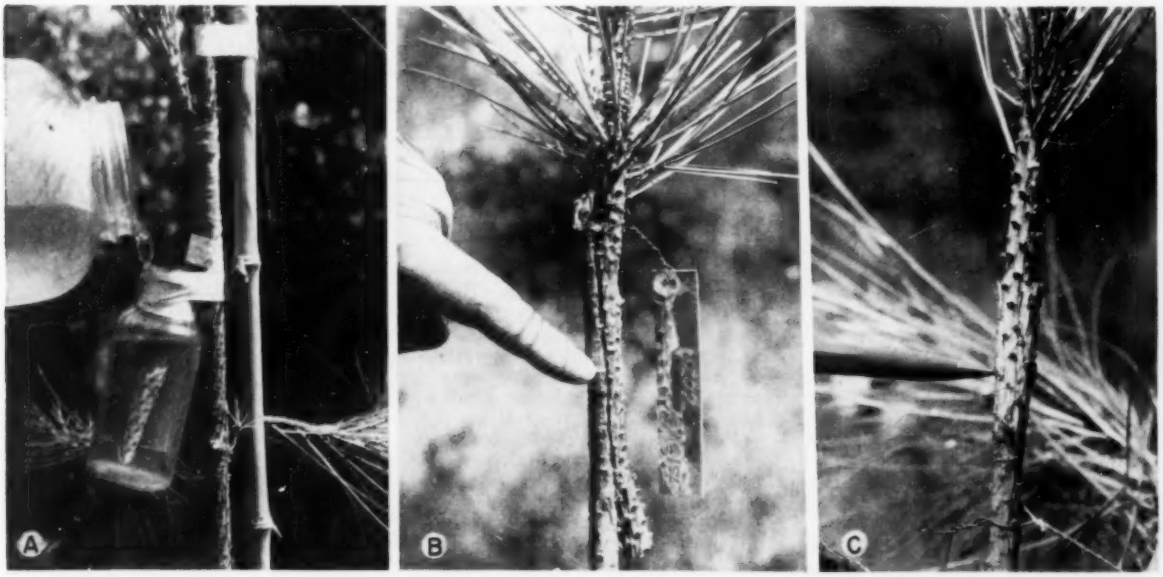
All are of good form and have wood of normal specific gravity. Over 3,000 of the grafts made this winter are living and will be sent back to the cooperating companies for establishment in seed orchards. The selection and grafting program will continue during the next few years until some 6,000 trees of slash and loblolly pine have been located in the southeast coastal plane. These orchards produced by

Swedish Geneticist Arrives

DR. TORE ARNBORG
Geneticist

Dr. Tore Arnborg of Uppsala, Sweden, noted expert on forest genetics, arrived in America in July to assist in the movement to improve the quality of Northwest timber products through application of latest tree breeding methods. Dr. Arnborg, whose last visit to this country was in 1953, will act as technical advisor to the Manning Seed Company of Seattle, Wash., in that concern's efforts to produce Douglas fir seed in tree orchards for reforestation purposes.

The idea of tree seed orchards originated in the Scandinavian countries where Dr. Arnborg is director of the Institute for Parktisk Skogsforadling, which manages seed producing orchards in Sweden.



TWO TYPES OF GRAFTS for establishing breeding arboreta at the Southern Institute of Forest Genetics. Figure (A) shows freshly made bottle graft; Figure (B) same scene 3½ months later, after successful union. This type of graft is most applicable early in growing season during peak load of controlled pollination. Figure (C): Succulent-tissue grafting, in which bud portion from the scion plant is inserted in split bud of understock plant and unites, is applicable after peak of pollinating season has already passed.

GENETICS BUILDING at The Institute of Paper Chemistry in Appleton, Wisconsin.

grafting will yield seed in commercial quantities when they are fifteen years old. This year, for instance, St. Regis will get 343 trees produced by the graft. International Paper, one of the sponsoring companies, will get 697. All of the companies taking part in the project will get a number of trees proportional to the number of cuttings submitted.

Seed orchards will eventually supply all of the seed used in the enormous planting program in the South. Within 15 to 20 years, according to George W. Abel, technical director of St. Regis Southern Woodlands Division, all of the companies taking part in the operation will be planting nothing but superior seeds from superior trees. St. Regis hopes to be producing enough seed in 20 years to cover its annual need of 25 million seedlings.

ON THE BASIS OF PAST experiments the majority of trees in the orchards is expected to be genetically superior. Those that are not will be removed from the seed orchards. One of the obvious effects of the establishment of seed orchards will be that of supplying genetically superior seed of known geographic origin. But, perhaps more significant than this, will be the establishment of a reliable supply of seed that can be collected at low cost.

For example, with modern extraction plants the cost of pine seed probably can be reduced to less than a dollar per pound as contrasted with the current price of $3.50 per pound. With these prices and with the development of birdrepellents such as Morkit, direct seeding will be a definite economic possibility in forest management. Trees selected in this work will be of value for future basic research as well as the development of superior trees for forest planting.

Selection and grafting of outstanding trees constitutes a major phase of the cooperative program between industry and the University of Florida. However, research studies are conducted in a diversified number of fields.

Experimental studies in racial variation with slash and loblolly pine, birch and maple are yielding interesting results. Clear evidence has been obtained showing the existence of genetic variation in winter-chilling and photo-period requirements of red maple. There are indications that loblolly pine of northern origins tends to become more crooked when moved to the shorter day lengths of our Southern latitudes. Paper and yellow birch show definite correlations in the patterns of their growth under varying conditions of day length. A paper soon to be released will describe the patterns of racial variation in slash pine that can be observed in the field.

A number of plantings have been made with seedlings produced by controlled pollenation amongst trees selected for vigor and for good and poor form. These trees will be measured regularly to determine the inheritance of these characteristics.

RECOGNITION IS MADE of the importance of Southern hardwoods in our breeding program with red gum. During the past winter we perfected breeding techniques for this species and made a number of control pollenations amongst trees selected for variation in coloration of fall foliage. Progeny tests with seed collected from trees of bright fall coloring and trees of yellow-brown fall coloring show that the characteristics of fall coloration in red gum are determined genetically.

A major study during the past winter was that of investigating pollen flight distance of slash pine pollen from isolated stands. Although the data has not been analyzed completely our results seem to support the conclusion of other workers that most pine pollen falls to the ground at a distance of less than 500 feet from the tree.

Similar genetics experiments are now being carried oue in other parts of the South. In North Carolina, paper companies have joined with the University of North Carolina in a program which has similar aims. The state of Georgia has been working in a genetics program for several years now and the Southern Institute of Forest Genetics at Gulfport has had good results in its program. Mr. Abel of St. Regis told THE LUMBERMAN that eventually a move may be made to coordinate the efforts of all these Southern groups working in the genetics field. If this is succesful, he said, it will eliminate duplication in different areas and permit even more widespread experiments.

Pacific NW Advances Forest Genetics Program

By ROY R. SILEN

• **COLLEGES, PRIVATE COMPANIES,** and governmental agencies in Oregon, Washington, and British Columbia are spending more than $50,000 yearly in research aimed at improvement of Pacific Northwest timber trees. Additional money is being spent to put the results of this research into practice. Furthermore, expanded programs are planned by many of these organizations.

In 1912, an arboretum was established by the Forest Service at Wind River, Wash., to test the adaptability of exotic species for the Northwest. During the following year, seed was collected for a region-wide study of growth habits of Douglas fir produced from seed of known origin. This undertaking, involving nearly 10,000 tagged Douglas fir seedlings from known female parents, still exists as a storehouse of genetic information. A similar test of ponderosa pine was begun in 1927.

Prominent among early leaders in the field of seed-origin trials were C. J. Kraebel, R. W. Weidman, T. T. Munger, and W. G. Morris. Principles of Douglas fir seed selection based on climate were given prominence by L. A. Isaac. Dr. G. S. Allen pioneered in the field of breeding behavior of Douglas fir and studied its reproductive and growth processes in minute detail. Breeding possibilities for this species have been further studied by J. W. Duffield.

The whole field of forest tree breed-

Mr. Silen is Forest Geneticist with Pacific Northwest Forest and Range Experiment Station, Portland, Oregon.

Geneticist Joins Staff

Robert K. Campbell has joined the staff of Industrial Forestry Association as forest geneticist.

Campbell's work in forest genetics will be under the supervision of Dr. J. W. Duffield, technical director of the Association's forest tree improvement program. His headquarters will be at the Association's Colonel W. B. Greeley Forest nursery at Nisqually, Washington.

"With completion of laboratory and greenhouse facilities for the Association's forest tree improvement program," W. D. Hagenstein, IFA executive vice-president, said, "Campbell will help furnish the professional know-how for the development of superior trees for future artificial reforestation of the industry's tree farms."

ing in western pines has been studied in more than 30 years of research at the Institute of Forest Genetics at Placerville, Calif. Also, many European researchers have included Northwest species in their genetic investigations. Through the years a host of researchers have filled in many essential details about the growth habits of Northwest trees.

Colleges and Universities

Contributions in the field by the University of British Columbia have long been noteworthy. At present, the variability of such wood-quality factors as fiber length are being investigated. Other studies, guided by Dr. G. S. Allen, are aimed at standardizing germination tests, improving the physical quality of forest tree seeds, and improving nursery practices. Planting stock from both the coast and the interior are being grown for experimental and demonstration material. Studies of growth factors have been conducted as well as some nursery selection work following the early frost damage of 1955-56.

An outstanding research effort, begun earlier at the University of British Columbia, was completed recently by the British Columbia Forest Service. This study investigated the effects of self-pollination in Douglas fir and the reduction in vigor that almost always follows. It was shown that most individual trees produce variable amounts of viable seed after self-pollination and that seedlings are unusually stunted and inferior to those resulting from cross-pollination.

The University of Washington reports a number of studies in seed origin, cros-pollination, grafting, rooting, and stimulating cone production. In one seed-origin study, Douglas fir from known seed sources in various parts of its range were planted at Pack Forest in 1951. This was done on a small scale, with only a dozen or so trees in each group. Purpose was to make growth comparisons and to provide (1) demonstration material and (2) stock available for breeding.

CROSSES HAVE BEEN MADE between four Douglas fir trees to test the inheritance of resistance to needle blight. Crosses between six Douglas fir trees also have been made to test inheritance of branch form, branch angle, and other characteristics. Numerous attempts to root cuttings were made in 1954 and 1955, and grafts have been made from trees selected for form, growth, and unusual appearance. The effects of various treatments on cone production have been studied, including fertilization and carbohydrate feeding of trees.

Washington State College reports preliminary tests in attempting to induce early flowering by grafting ponderosa pine on the slow-growing rootstocks of Mugho pine. For another study, plantations are being established to test suitability of species and strains of various evergreens for Christmas tree plantations.

FAST-GROWING, short-branched sapling of highly desirable timber form (left photo) at the Athens-Macon Research Center, Dry Branch, Georgia. In right photo is long-branched sapling that will not prune readily. The seed came from a tree with long branches that were large in diameter. (Photos: Ida Cason Callaway Foundation, with S. E. Forest Experiment Station.)

The Oregon State College Forest Experiment Station, lists the establishment of plantations of several interior races of Douglas fir to test them for survival on dry southern exposures, for desirability as Christmas trees, and for growth capacity. A lodgepole pine race study has also been established to test survival and subsequent development of both the interior and coast varieties of lodgepole pine on sites adverse for Douglas fir.

Genetic variation in Douglas fir, with regard to response from different lengths of day, bud bursting, and growth characteristics, is being studied. Dr. L. F. Roth is carrying out a program of selection for resistance to mistletoe in ponderosa pine and resistance to phytophthora root rot in Port Orford-cedar. The Oregon Seed Testing Laboratory is developing rapid germination tests and working toward a standard germination procedure for Northwest species.

Research by Private Companies

In Canada, two companies reported research activities; in Oregon and Washington eleven foresters in seven companies have devoted time to tree improvement.

The Industrial Forestry Association has completed construction of a genetics laboratory in conjunction with its Col. W. B. Greeley Forest nursery at Nisqually, Wash. Dr. John W. Duffield, who is in charge of the cooperative program in genetics research, coordinates experiments and trials of member companies. (See article in this issue.)

Weyerhaeuser Timber Company has started a test of the effects of nitrogen and phosphorus on production of cones and seed. Other work consists of grafting trials, selection of many outstanding trees from which to collect seed, and studies in banding and girdling to induce flowering. A scion depot, or area from selected trees where vegetative cuttings are preserved, is being set up on the Vale Tree Farm in western Washington. Rate of growth and age at which cones are produced by grafted stock will be checked.

FOREST SOILS RESEARCH laboratory of Rayonier, Inc., at Sappho, Wash., has studies in western hemlock. These relate to pulp yields and pulp quality. Heritability of tree form and other characteristics are being tested on several grafting areas. Studies in pollination techniques and storage of pollen have been started.

Bloedel Timberlands Development, Inc., Winslow, Wash., reports the establishment of a seed orchard of grafted stock from outstanding Douglas fir trees. One criterion used in tree selection was density of the outer ten annual rings, as measured from increment cores. This seed orchard will provide seed for the company's forest nursery.

The Port Blakeley Mill Company, Seattle, Wash. is selecting outstanding trees, and making comparisons between the growth of standard nursery stock and selected "jumbo" seedlings. In addition, it reports that trial plantings of a hybrid white pine (western white pine x Hymalayan pine) from the Institute of Forest Genetics at Placerville, Calif., are being tried for both adaptability to western Washington conditions and resistance to blister rust.

At Nanaimo, British Columbia, MacMillan and Bloedel, Ltd., are test-

PAPER BAGS OVER new spruce grafts help maintain moisture, a critical factor in grafting. In above photo, J. W. DUFFIELD, technical director of Nisqually, Wash. nursery, examines a Sitka spruce graft. In the right photo is Douglas fir that went "crazy", an extreme example of what can happen to a tree when the terminal bud's vertical growth is suddenly altered.

ing for better strains among seed lots in Douglas fir from a range of areas in Washington, Oregon, and British Columbia. Several imported and hybrid pines are being tried to determine fastest growing and best adapted species for low-elevation sites in the Douglas fir belt. This company also is cooperating in seed-source tests of Douglas fir initiated by the Oregon State Board of Forestry, and in breeding experiments of the British Columbia Forest Service.

COMMON INHERITED forms of slash pine. Short branched tree on left with large branch angles and long branched tree on right with acute branch angles, Macon, Ga. (USFS Photo.)

Western Plywood Co., Ltd., Vancouver, British Columbia, reports the selection and propagation of northern black cotton-wood from especially vigorous trees. Also, cuttings of hybrids from the United States and Europe have been imported to be substituted for native trees if they prove superior and adaptable to local conditions.

Perpetual Forests, Inc., has established a seed orchard near Grand Mound, Wash. Cuttings from fast-growing trees throughout the region are being grafted on wild stock for the production of orchard-grown seed.

Studies by Public Agencies

Both the British Columbia Forest Service and the Forest Biology Laboratory of the Dominion Forest Service have active research programs. For several years, the Dominion Laboratory has been testing selections of apparently rust-free white pines that survived in the very area in British Columbia where this disease was first introduced to the west coast in 1910. This test is being made at the nursery at Duncan in a disease garden of infected ribes plants, the alternate host to this disease.

The British Columbia Forest Service Research Division has several studies, concerning the inbreeding of Douglas fir. Another study concerns the effects of storage on the viability of Douglas fir pollen.

Seedlings from wind-pollination and cuttings from a number of both good and poor tree types in a young open-grown stand of Douglas fir are being studied to demonstrate the need for careful selection in cone collecting. Similarly, seedlings from high-elevation stands on different sites are being grown to demonstrate pontentialities of proper selection of seed source. A study, started in 1954, is exploring methods of increasing production of cones. In addition, root stocks for a high-elevation seed orchard are now being planted at the nursery at Duncan.

A cooperative seed-source study in Douglas fir has been initiated by the Oregon State Board of Forestry. The study extends from southern Oregon to British Columbia. Groups of identical plantations will be established at about 100-mile intervals from north to south, each group sampling several elevational zones from east to west. Seedlings from each locality and elevational zone will be included at each plantation. The Oregon State Board of Forestry is also testing selected large nursery stock and making breeding trials of Douglas fir for production of improved planting stock for south slopes.

THE PACIFIC NORTHWEST Forest and Range Experiment Station has had the longest sustained genetics program in the Northwest, dating back to the first seed-source studies, began in 1912. T. T. Munger and L. A. Isaac pioneered this program. Existing studies, listed by date of establishment, are as follows:

1912: Tests of exotic conifers and hardwoods at the Wind River Arboretum for survival and growth.

1915-16: Study of growth of Douglas fir from known seed source. Seedlings from 13 collection areas in western Oregon and Washington, representing 120 wind-pollinated parent trees, were kept separate by parental lots and established in 6 identical plantations. Effects on offspring of elevation, site, fungus infection, and age of parent are being studied.

1926-27: A cooperative study of regional races of ponderosa pine. Seven races were established separately in six plantations to study comparative growth and adaptability.

1939: A test of eleven clones of hybrid poplars for adaptability to Northwest conditions.

1951: A test of X-Ray-treated seed to induce early flowering in Douglas fir.

1953: Field adaptability trials of ponderosa pine hybrids from the Institute of Genetics.

1955: A study of heritability of bud-bursting and other characteristics, using a 15-year-old Douglas fir clone as understock for grafted cuttings from six trees of known bud-bursting order. Another project involves explorations into doubling chromosome numbers in Douglas fir seeds, seedlings, and buds to test rate of growth. Also, rooting of Douglas fir cuttings was tried under intermittent mist spray.
Other research includes a study of "jumbo" selections of ponderosa pine, collection of seed from the tallest ponderosa pine ever measured (now cut), and assistance to the California Forest and Range Experiment Station in a study of racial variation in ponderosa pine from Mexico to Canada.

1956: A study of the pattern of dispersal of Douglas fir pollen. Also, a seed-origin study of sugar pine at the Siskiyou-Cascade Research Center in southwestern Oregon.

Activities of U.S. Forest Service

The Regional office of the Forest Service, Portland, Oreg. has selected a number of superior stands on the national forests as seed collection areas. This program also includes the establishment of a living-tree archive for ponderosa pine at the nursery at Bend, Oreg., where unusual ponderosa pine seedlings also have been planted.

At the Wind River Nursery in Washington, a program of selection for resistance of western white pine and sugar pine to blister rust infection is being initiated. A disease garden for artificial inoculation of selected seedlings was established in 1955 and a search of Northwest stands for blister-rust-resistant white pine trees will be conducted this year.

Three major arboretums and a number of smaller collections of exotic trees are maintained in the Northwest. The arboretums are situated at the Wind River Experimental Forest near Carson, Wash., at Oregon State College, and at the city forest at Portland, Oreg. These form important reservoirs of genetic material for future breeding work.

FACILITIES AT GEORGIA Forestry Center. Nursery beds and a lathhouse for genetics project. Buildings in background are part of the cone drying and seed extraction plant here.

Foresight Sparks Genetics Progress

The oldest tree-breeding institution at present operating in the world was founded by James G. Eddy, lumberman of Seattle, Wash., back in 1925.

Mr. Eddy's interest in genetics led him on extensive travels throughout the U.S., seeking out and counseling with the most prominent men in that field, such as A. B. Stout and Thomas H. Morgan, Nobel prizewinner, and Luther Burbank, the plant breeder. Placerville, Calif., was selected as the site of what was originally called the "Eddy Tree Breeding Station." The work was concentrated on pines because of their national and world-wide importance. Lloyd Austin was placed in charge.

The station was supported by Mr. Eddy up until the early '30's. In 1934 he donated it to the United States, to be operated by the U.S.F.S.' California Forest & Range Experiment Station, which has run it ever since as the Institute of Forest Genetics. Mr. Eddy has maintained close personal interest in the Institute and has continued to provide financial assistance.

In 1951 Mr. Eddy became president of the Forest Genetics Research Foundation, formed to support genetics work, and he is now honorary president of the group. His connection with the Institute is permanently honored by the Eddy Arboretum there.

Mr. Eddy has maintained a firm belief in the scientific principles of genetics and in the accomplishments which can be and are being made. He has been the subject of several articles in various publications. When approached by THE LUMBERMAN last month for more details on his part in genetics, he modestly declined any further personal attention. Nevertheless his pioneering work in the quest for better trees speaks for itself.

Col. Greeley Nursery Sponsors Tree Projects

• **IN THE PACIFIC** northwest, private industry is backing an energetic program centered at the Industrial Forestry Association's Col. W. B. Greeley Forest Nursery at Nisqually, Washington. Two years ago, IFA hired John W. Duffield as technical director for the nursery and also to set up and operate a research program pointed towards improving the commercial timber species in the region.

Recently THE LUMBERMAN visited Dr. Duffield at Nisqually to discuss some of the projects which he has underway. IFA is completing a research laboratory, greenhouse and another building for propagating at the nursery location.

Goals of IFA Program are, briefly:

- To develop a tree that will live through a normal rotation. (This means insect and disease resistant trees.)
- To develop superior trees of all the major species of the region. This suggests a faster rate of

COMMON INHERITED FORMS of slash pine. Left, multiple forked tree near Cordele, Ga., an undesirable form. Right, straight stem on left and crooked stem on right. (USFS Photo.)

"SUPERIOR" LONGLEAF pine in Texas. If tests prove this tree to be truly genetically superior, seed orchards can produce the seed in quantity. (Photo: Texas Forest Service.)

growth (some instances), better stem form and trees with high reproductive ability.

- Since IFA members represent major pulp and paper, as well as lumber and plywood producers, considerable attention is being directed to the pulpwood species. Because pulp mills can utilize timber at an earlier age than other processors, they are very interested in genetics; several pulp and paper manufacturers have begun projects of their own.
- To develop trees with improved wood properties. This involves so much speculation as to what kind of wood manufacturers want that it will take many years before improvement can be effected.

One of Duffield's first projects has been to roam the Douglas fir region, contacting industrial foresters and enlisting their aid in locating tall, fast-growing trees of good form, trees that foresters would like to see in greater abundance, especially in second-growth stands.

ALREADY, DUFFIELD AND his associate Mr. Campbell have grafted 500 scions (twigs or shoots) from outstanding trees onto young-growth trees located near Vail, Wash., east of Nisqually. Thus has been started a "seed orchard." The idea is that graftings from superior parents will produce seed, that will in turn grow superior trees.

Duffield says that the first producing seed orchard in the Douglas fir region is at least five years away.

In cross-breeding experiments to develop hybrids, Sitka spruce *(Picea sitchensis)* offers many more possibilities than do other native softwoods in the region. The genus *Picea* has scattered world-wide, and many arboreta in the U. S. can easily provide scions for grafting. At Nisqually 13 species of spruce have been grafted onto native Sitka spruce seedlings; these 13 include the species *P. aspirata* and *likingensis* from China, *smithiana* from the Himalayas, *orientalis* and *jezoensis* from Japan and *rubens*, the eastern red spruce of the U. S.

Spruce takes to hybridization quite readily, even in its natural environment in North America. It grows rapidly and produces large quantities of seed. Hoped-for improvement in spruce includes resistance to the Sitka spruce weevil and reduced limbiness.

SPRUCE IS ALSO CONSIDERED an excellent species, because of its extremely rapid growth as well as its many end uses—for lumber, plywood and pulp.

Duffield points out another vital part of genetics: getting the tree to the size where it can be tested for various properties. To grow trees to proper size takes a long time; consequently startling results won't appear overnight.

Many members of IFA are interested in growing hemlock for pulpwood, and Duffield is working closely with foresters of pulp companies. Some of the major pests faced by a hemlock tree in its lifetime are root rot, loopers, budworms and bark beetles. Battling against these enemies, the hemlock can readily use any help from geneticists.

Douglas fir is in a more favorable position of possessing less major defects that need correction, as compared with other species of the region. Consequently tree breeders are simply aiming for a better all-around tree—straighter, taller, and with a growth rate suited to specific wood uses.

Editor's Note: Because of space limitations in this issue, a subsequent issue of THE LUMBERMAN will carry the balance of the round-up report on forest genetics.

TEXAS FOREST SERVICE Projects. Left: geneticist at work in pine tree top bagging pine flowers for later pollination. Center: aerial rooting of slash pine is attempted. Stem is girdled, hormone placed in girdle, moist sphogrum placed around wound and wrapped. Stem can be planted in root medium. Right: bottle graft. Stem grafted onto root stock of another is immersed in water bottle.

PRESS GROUP COMPOSED of business paper and newspaper editors stop at entrance of Diamond Match Co.'s Tree Farm near Stirling City, Calif. Tour was arranged for group in July and hosted by RICHARD D. ROSEBERRY, chief forester and RICHARD J. McBREEN, western manager.

Group Tours Diamond Match Company Properties

• Mother Nature is like most other women. The kinder you treat her, the more she rewards you.

That's why the Diamond Match Co. considers it smart business to practice good forestry so it will have a perpetual supply of timber for its wide variety of wood products sold all over the country.

How this is accomplished in Diamond Match Co.'s vast timber holdings in the Sierra Nevada east of the Chico-Red Bluff regions of California was shown to a group of business paper and newspaper editors last month.

Richard D. Roseberry, chief forester of Diamond's California operations, emphasized that the company's huge timber reserves in this area would last for about 40 years if the timber was harvested without any concern for the future.

But by selectively cutting the overripe, mature and defective trees, and leaving the younger healthy trees for a future crop, Diamond's timber reserve should last forever, he predicted.

The company has made use of artificial seeding and planting. One such plot was shown to the group at the Stirling City sawmill of the company, which was also toured.

Experiments in encouraging young growth of conifers in a large brush area between Stirling City and Butte Meadows, which had been burned over twice, were explained to the group by Roseberry.

A growth plot was visited near Butte Meadows and the company's thinning policy and practices were explained. The journalists visited one of the company's logging sides, where Peterbilt trucks with Page & Page trailers were being loaded with logs by a Northwest shovel. The group viewed falling operations in which Homelite saws were being used.

On the way to Red Bluff the Lyman Springs sawmill of the company was inspected. Final stop on the trip was the site of the $15,000,000 integrated forest products manufacturing plant at Red Bluff.

The plant, slated for completion in about a year, will make molded pulp products for Western consumption that up to now have been shipped here from the East.

Molded pulp, a mechanical process that does not involve the chemical by-product problems of kraft pulp production, is used to make egg cartons, pie and cake plates, and containers for pre-packaged meats and produce.

In addition the new plant will process some 85,000,000 board feet of lumber annually, replacing the Lyman Springs and Stirling City mills of the company, eventually.

With the new Red Bluff plant also making molded pulp products, Diamond expects to double the use it gets out of each log. In addition, it hopes it may be able to find it economical to salvage timber now left in the forest because there is no use for it.

Co-host on the tour was Richard J. McBreen, western manager, industrial relations. Winding up the visit to Diamond Match Co.'s holdings was a banquet in Chico.

The Crossett Co. Begins "Tree For A Tree" Plan

• The Crossett Company, Crossett, Ark., has been directly responsible for the planting of almost 23 million new pine trees on its own and other lands since the beginning of its pine seedling planting program seven years ago, according to a report just issued by the company's Forestry Division.

This represents the total planting figure in the company's three way planting program.

The three divisions include the "Tree For A Tree" project, the seedling give-away and planting on company lands. In the first two programs, seedlings are given to landowners free of charge or on a matching basis.

The "Tree For A Tree" project has accounted for 3,255,000 seedlings being planted on 3,180 acres. An additional 6,422,000 trees have been given away to individual landowners through the Soil Conservation Service and the company's district forest headquarters. The company has planted 12,995,000 young pines on 15,458 acres of its own holdings.

DIAMOND PERSONNEL who took part in tour: (from left) W. H. HARRIS; RICHARD J. McBREEN; GEORGE E. DUFFEY; TOM SHELTON and R. D. ROSEBERRY.

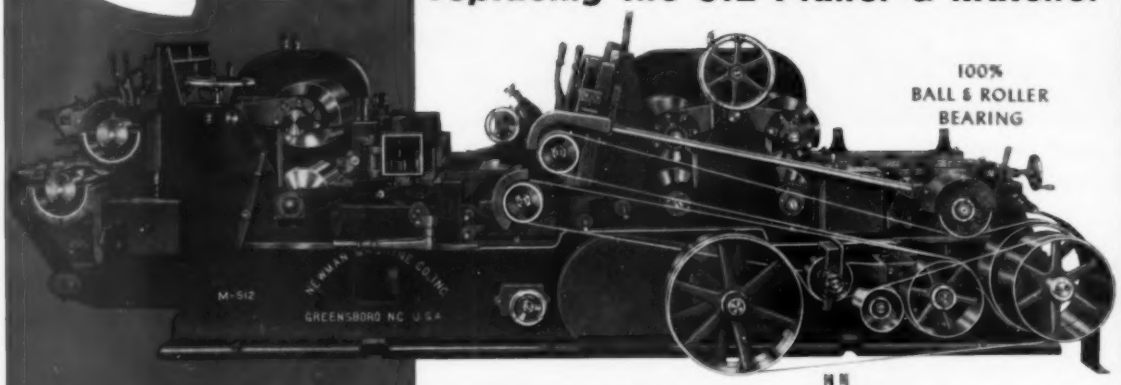
BETTER SERVICE FOR THE LUMBERMAN SUBSCRIBERS

Due to a change in printing schedules, effective with the September issue, your copy of THE LUMBERMAN will arrive approximately two weeks earlier than in the past. The editors of THE LUMBERMAN will be able to bring you more current news. West Coast subscribers should receive their copies on or before the 1st of the month. In the East and South, a few days later.

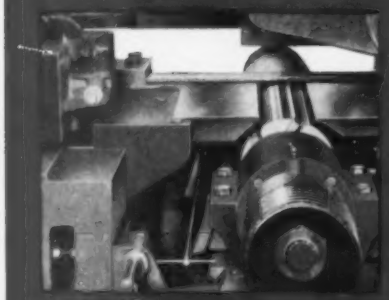
26 New Features

for the NEWMAN M-512 PLANER & MATCHER

replacing the 512 Planer & Matcher



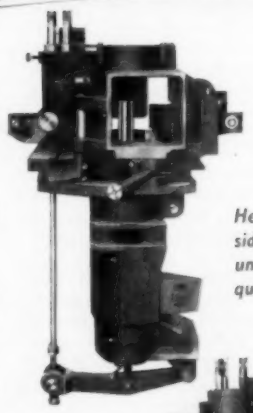
PLATENS & GUIDES



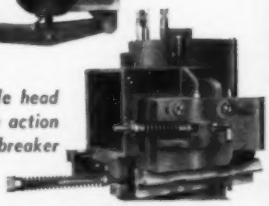
1. Massive vibration free bed plate after bottom cylinder.
2. Flame hardened bed plates before and after bottom cylinder.
3. Quick release for pressure bar.
4. Flame hardened pressure bar.
5. Wear resistant rigid solid steel long guide.
6. Splinter proof table under top cylinder.

SIDE HEADS

7. Side head units one piece yoke construction — extra large heavy duty ball bearings mounted in long quills.
8. Quick release for left side head unit.
9. Rear side head chipbreaker spring tensioned against guide shoe to eliminate shaving openings.
10. Double action left side head chipbreaker.



Heavy duty side head units of long quill design

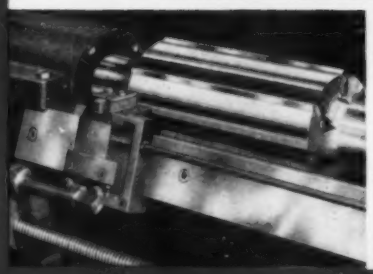


Left side head double action chipbreaker

PROFILERS

11. Three bearing support for profiler spindles with machine tool tapers for outboard bearings.

TOP & BOTTOM HEAD ASSEMBLIES



12. Removable hardened top head chipbreaker shoes are heavier and locked in position with heavy screws.
13. Chatter proof jointer units.
14. Top head jointer bar integral with pressure bar.

Announced

Newman

FEED WORKS

15 Simultaneous roll raising device for bottom feed rolls.

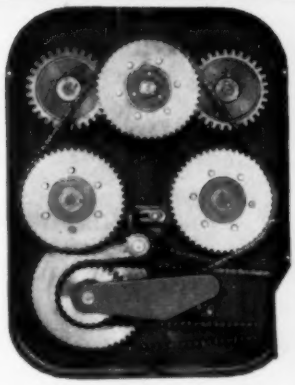
16 Feed works reversible.

17 Larger diameter alloy steel feed roll shafts.

18 Feeds to 400 feet per minute.

19 Timken bearings on bottom feed roll shafts.

20 All sprockets steel—heat treated.



THE FOLLOWING EQUIPMENT IS NOW AVAILABLE FOR THE M-512 PLANER & MATCHER

21 Power hoist for top infeed rolls.

22 Portable heel knife grinder with large horsepower motors.

23 Precision roller knife setting gauge.

24 Power hoist for top head.

25 Motorized V-belt driven side head units.

26 10-knife top and bottom cylinders and side heads.

Newman No. 55
30" Automatic Feed Table

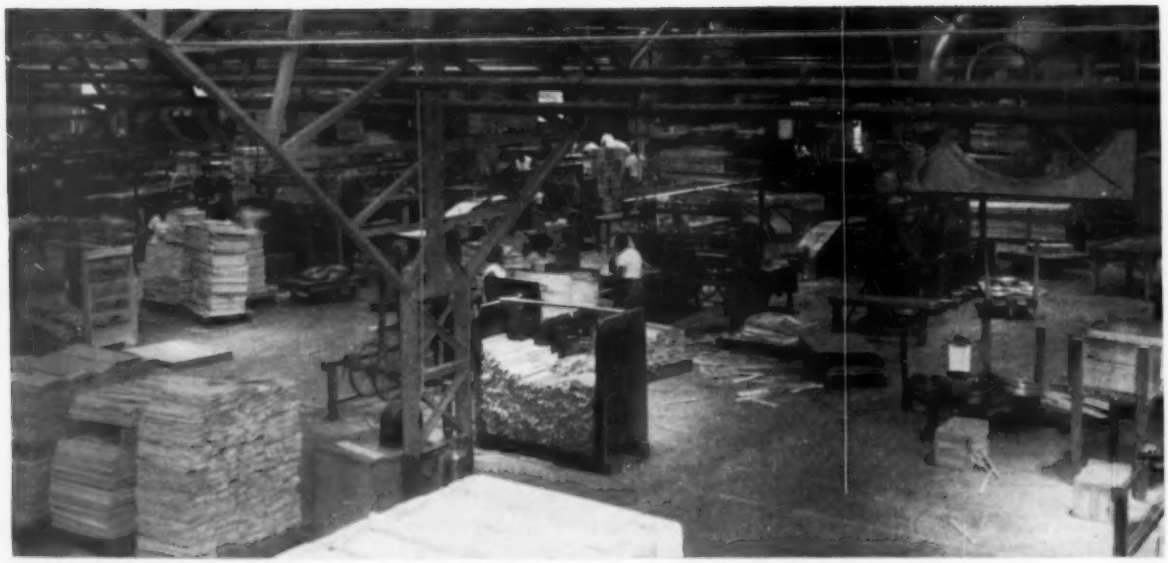
Auxiliary Equipment

G-16 Side & Profile Head Grinder with roller bearing table allowing finger tip movement

G-132 32" Knife Grinder extreme accuracy for low investment

New G-71 Side & Profile Head Grinder (Replacing No. 71 Grinder)

Newman Machine Co., Inc.
GREENSBORO, NORTH CAROLINA, U. S. A.



GREAT SOUTHERN WIREBOUND Box Co., subsidiary of the Robert Gair Co., Inc., plant at Magnolia, Miss., is busy box make-up operation.

PLANT SUPT. CHARLES V. McELWEE (left) and assist. supt. IRVING L. BULTMAN.

Plant Manufactures Boxes

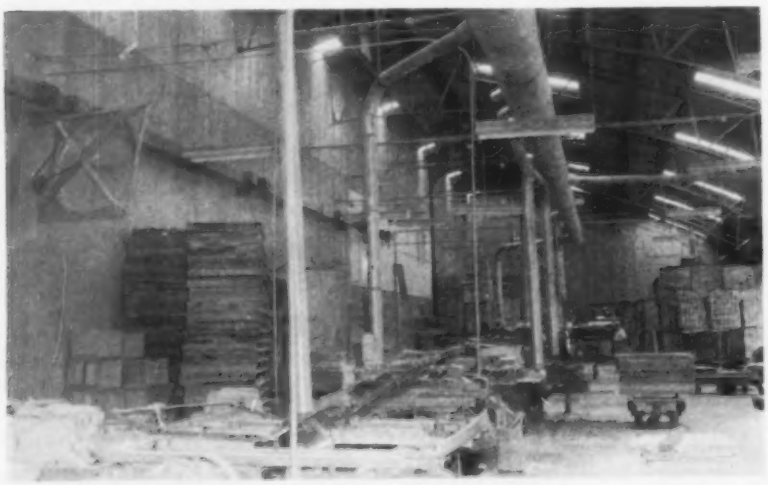
Mississippi firm adds wirebound box factory and practices safety

COMPETENCY OF EXPERIENCED operating crew, well laid out facilities, and enforcement of "protective glasses" wearing maintain a satisfactory safety record at the Magnolia, Mississippi, plant of the Great Southern Wirebound Box Company, a subsidiary of the Robert Gair Company, Inc. Acquisition of these facilities by the Gair Company adds interest to the capabilities of this plant.

Operations of the Company began in 1925 with establishment of a wirebound box plant in New Orleans by the Great Southern Box Company. Corrugated box production there started in 1935, and a corrugated box subsidiary was established in Jackson, Miss., in 1940. To this latter subsidiary, in 1948, there was added a cleated corrugated box plant.

New erected, the Magnolia, Miss., plant started making boxes in 1954 and by year's end all equipment had been installed and full scale production had been attained.

Of concrete, structural steel, and corrugated steel for roofing and siding, the plant contains 72,000 square feet of floor space. It was designed to produce 23 carloads of wirebound boxes in two 40 hour weekly shifts. The building is equipped with an automatic sprinkler system, backed by city owned water supply reserves of adequate pressure. With loading platforms on three sides, access is provided for 10 cars and 8 trucks at one time.

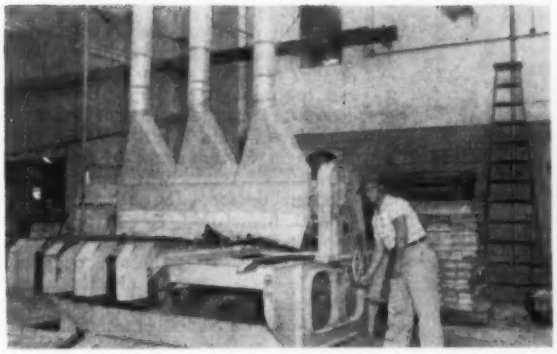


VIEW OF PRODUCTION line at Magnolia, Miss., operations, for making box and crate parts.

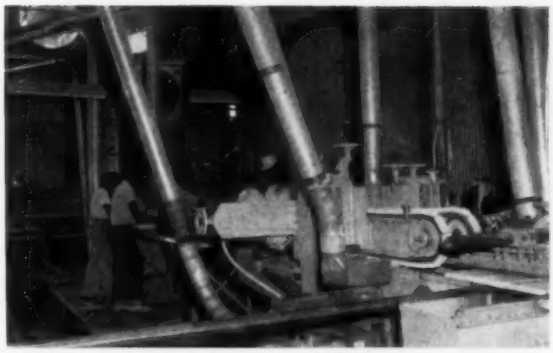
PRACTICALLY ALL OUTBOUND shipments are by rail, and truck receipts of raw material are mainly to expedite the meeting of demands of customers.

Lumber used is purchased from sawmills within the general area. Two Clark-Ross fork lift trucks do unloading and stacking in the yard, providing a fast-turn-around for delivery vehicles and rapid, accurate stacking. Average lumber stocks are about 1¾ million board feet. Yard capacity provides ample space for two million feet.

Veneer inventory carried is about ¾ million board feet, this material being received by truck and rail principally from Natchez and Lucedale,



W. H. SHAW, veneer foreman, at controls of Mereen-Johnson veneer equalizing machine. Veneer inventory is approx. ¾ million ft.



OUTFEED END of the Mereen-Johnson cleat machine, first in production line. Safety glasses are worn by all the many operators.

Miss., Denham Springs, La., and Allen, Ala.

Layout arrangement for this plant insures economical nonreturn flow of material in production. Before entering the main building, the lumber is put through a double surfacer in a small separate structure with sawdust and shavings blown to a Rees Mfg. Co. refuse burner. Fork lift trucks carry lumber to the planer, thence to a group of Mereen-Johnson cleat making machinery, first in production line. Adjoining this is a second group of typical machinery. Cleats are cut to size, mitered, tongue and grooved or square cut, making finished components for the boxes.

At the other end of the nine machine line, veneer is started through a Mereen-Johnson veneer rip. In between are various production units and saws furnished by Jenkins Machine Co., Sheboygan Falls, Wis.; B. G. Luther Co., Worcester, Mass.; and J. A. Fay & Egan Co., Cincinnati, Ohio.

Plant Personnel

Plant manager at Magnolia is Roy Blaum; superintendent Charles V. McElwee and his assistant, Irving L. Bultman. W. H. Shaw is foreman of veneer and wood preparation.

Shelley Shuster, president of Great Southern Box Co., prior to its acquisition by Gair, is General Manager of Gair's Southern Container District, which includes the Magnolia plant. C. C. Viguerie is General Sales Manager, Southern Container District and Paul E. Olivier is General Superintendent, Southern Container District.

FOUR ELECTRICAL (Hy-Lift) industrial trucks, furnished by The Baker-Raulang Co., unload cars and do in-plant handling of materials. Exide Ironclad batteries in these units are re-charged with Hobart Generator Corp. equipment.

Two F. X. Hooper Co., Inc., machines print customers' names, etc. on the products.

Eight latest type Stapling Machine Co. units, arranged for fast production, make up crates and boxes. One machine can produce 5500 half-crate size lettuce crates (a popular number) in one 8-hour shift. Finished crates or boxes are wire tied with Gerrard Steel Strapping equipment into bundles according to count desired by the customer. Wire is supplied by major steel companies to precise specifications. The plant recently changed from small 20lb to 80lb coils (depending upon gauge) to those weighing 600lb to 800lb. On small coils, changing as high as 10 times daily costs production time which is saved to a great extent by the larger supply unit.

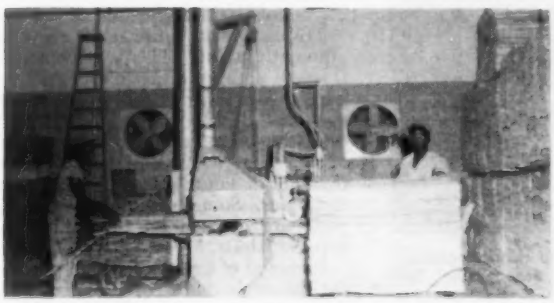
Plant sprinkler installation from "Reliable" (Mt. Vernon, N. Y.) was supplied by William H. Ladew Co., Hammond, La., engineers and contractors.

Production covers the full range of whatever is needed in the territory; larger pallet crates for industry, six sided boxes for fresh meats, poultry, fruits and vegetables; Louisiana "yams"; strawberries from Hammond, La. There is a well established and growing broiler business in Louisiana and Mississippi to be supplied.

Personnel for the plant comes entirely from local sources.

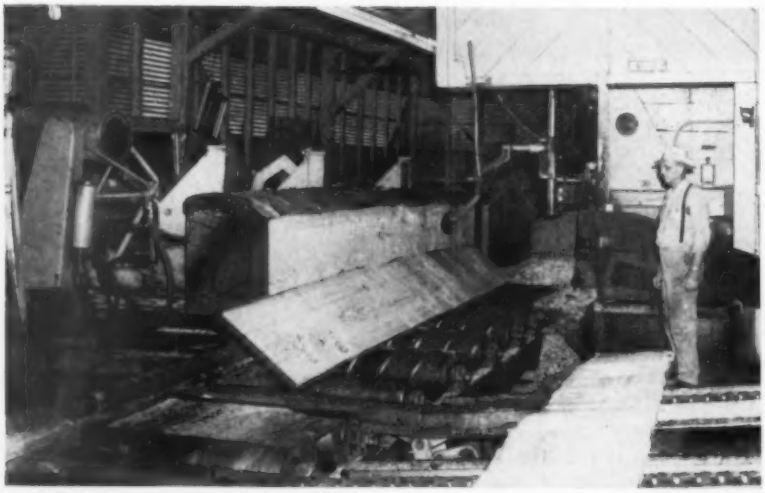
EXIDE BATTERIES for industrial trucks being charged by Hobart Generator Corp. unit.

FOUR HY-LIFT electric industrial trucks, furnished by The Baker-Raulang Co., handle material within the plant, from the car-loading operations to out-loading operations.



VENEER SAW furnished by the Mereen-Johnson Machine Company.

OUTFEED END of Great Southern's Stapling Machine Co. unit.



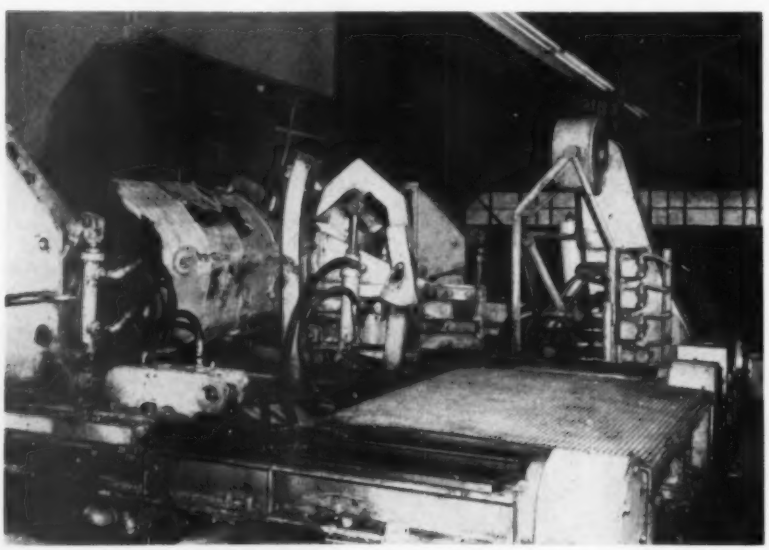
IVORY PINE COMPANY, Dinuba, Calif., converts to remote control carriage operation. This is action view from front, showing indexing dial and board dropping onto live rolls. Note the "handshaker" attached to saw guide, rotating shear at left, spirally wound rolls and (less visibly shown) the moving apron on band mill plate. Foreman D. C. McLean looks on.

The Rig Doesn't Talk Back

California mill converts to riderless carriage, reports gains in production

IN KEEPING WITH recent sawmilling trends, the carriage at the plant of Ivory Pine Company, Dinuba, California, has recently been converted to remote control operation.

The carriage, a 7-year old unit built by the Peters Company is all-steel and has three head blocks with 72-in. opening and was designed for pine sawing. It is hydraulically propelled and operated by Vickers equipment throughout. Originally it had a Peters electric set works which functioned through a large double solenoid to open and close a reversible hydraulic motor attached to the set shaft. The setting equipment embodied a dial tilted toward the setter but had a relatively long train of sprockets and chain between the index and the set shaft.



PETERS CO. BUILT all-steel, 72-in. opening, 3-block, hydraulically operated riderless carriage. Rear view shows, at left center, horizontal taper cylinder, vertical board dog cylinder. Left center: oscillating dogs, 6 in. forward. Right center: tubes to bank of 30 electric valves. Index dial is above, Sel-Set gauge for thickness setting at the right rear.

This set works was replaced by a Sel-Set device, designed by Milton Mater, Corvallis, Ore., and built by Forest Products Machinery Co., Inc., Salem, Ore. It is directly connected to the set shaft and obtains various thicknesses through a group of adjustable cams on a small shaft. Selectivity is obtained through a group of relays mounted off the carriage and connected with a set of keys under the fingers of the sawyer's left hand. The dial, graduated on a basis of "2 for 1", was raised and tilted toward the sawyer who can read and set it when turning down his cant to within 1/16th inch. The whole set works is very fast, extremely accurate and has proven trouble-free.

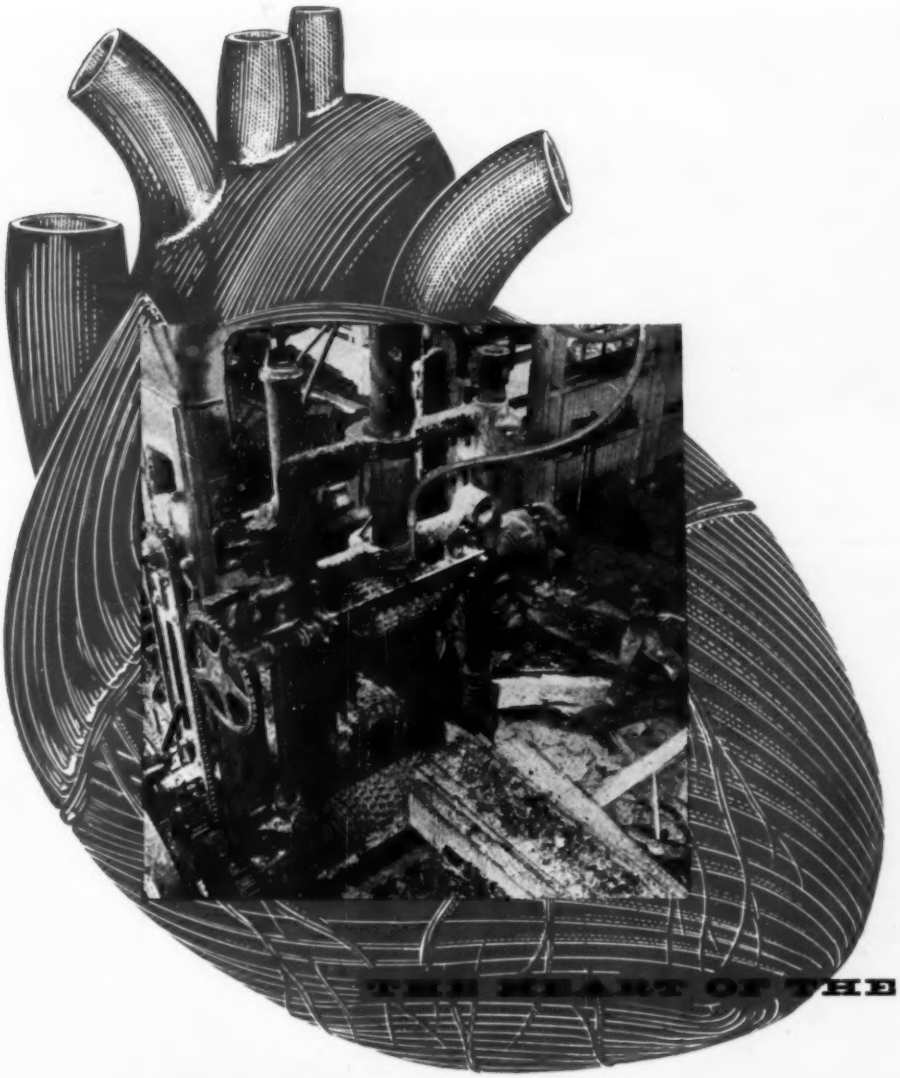
The log gripping devices of this carriage were actuated by hydraulic cylinders operated through four-way valves, opened and closed by the setter's feet. Within the knees were board-type dogs and the "boss dog" was of the tong type, developed by W. A. Martin, Klamath Falls, Ore. These tongs could be moved forward for a large bit or pulled back to tighten the logs against the knee or get them out of the way when not in use. The three foot valves were replaced by solenoids subject to the control of the sawyer.

TAPER LEVERS, one for each knee, with six inch offset, without affecting the gripping devices, are now controlled by the sawyer's left hand through positioning keys. Each can be operated separately by its solenoid valve to any part of six inches or all can be reduced to normal by a fourth key. They were formerly controlled by hydraulic valves hands operated by the setter.

As all these operations were plumbed in for connection to manually operated valves, it was only necessary to add a bank of six solenoid operated Vickers Valves. Flexible rubber tubes have been manifolded to all connections to and from these valves, five to each, because they absorb shocks and are easy to apply. Some tubes from the original installation have been in continuous service for seven years.

Displacement of the setter required automatic oiling. This was contrived through an application of Alemite accumeters to all the major wear points, such as the slides of the knees. Every time the knees pass the 24-in. point of opening, a measured amount of thick oil or liquid grease is ejected on the slides. Some infrequently moving parts are greased by the millwright between shifts.

Removal of splinters which get under the angle made by the knees with their plates or guides is accomplished



THE HEART OF THE MILL!

Van Vleet mill foreman
Dave Rice

That's the way Dave Rice, mill foreman at Van Vleet Lumber Products, Inc., Arcata, Calif., describes the Swedish gang saw which turns out some 65,000 board feet of lumber per eight-hour shift.

Guide blocks in the Swedish gang must withstand great pressure, heat and shock loads as the saw cuts huge logs into as many as 12 cants. "For the past seven years we've relied on General Petroleum's Viscolite Oil Extra Heavy to protect our gang saw...we know what it can do, and we just can't afford down-time," says Rice.

Like so many other leading lumber mills, you'll find it pays to do business with G.P. Top-rated products and the lube engineering know-how that goes with them—they're yours when you deal with General Petroleum. Prove it for yourself...call your nearest G.P. office today.

GENERAL PETROLEUM CORPORATION

2-1049

HANNA CYLINDERS

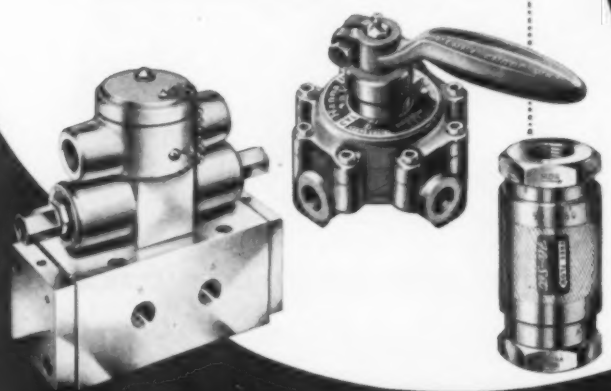
There is a complete line of Hanna Cylinders to suit all requirements of size and mounting . . . in capacities up to 250 psi for low pressure air or hydraulic operation, and up to 1500 psi hydraulic.

. . . finest combination

for Dependable Fluid Power

and Reliable Controls

HANNA VALVES



Designed to assure most efficient control, there are many types and sizes of Hanna Valves available for hand, foot and electric operation, for automatic, remote and speed controls.

■ It was not like this just half a century to design and build a superior line of cylinders and valves . . . but the experience and imagination [illegible] Hanna has that [illegible]

We've gone a long way, today . . . to serve [illegible] and Power Control . . . basically [illegible]

. . . products designed and manufactured to the highest standards of performance . . . [illegible] Hanna is a price . . . although they are [illegible]

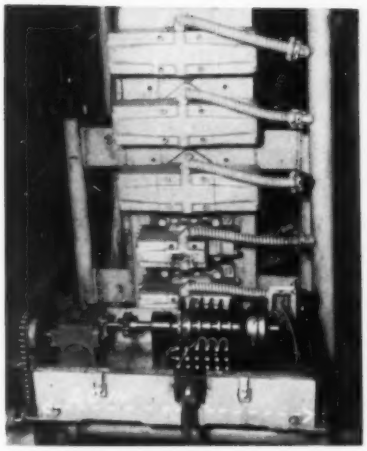
. . . that no complete line can fit exactly a "standard" Hanna cylinder or valve to suit your "special" jobs.

. . . A plant engineering staff that backs a nationwide regional engineering-sales organization to help you quickly solve difficult problems . . . and to follow through on all your "needed now" requirements. Many Hanna Representatives also [illegible] the standard sizes and types of Hanna Products—the Hanna Plant, of course, does, too.

Whether you need cylinders and controls for equipment that is for resale, or for your own plant use . . . call or write your Hanna Representative (see classified telephone directory or Thomas' Register) or write us direct.

Hanna Engineering Works

HYDRAULIC AND PNEUMATIC EQUIPMENT . . . CYLINDERS . . . VALVES



HEART OF the carriage equipment is this network of valves and Sel-Set thickness gauge. Three upper Vickers solenoid operated 4-way valves operate the knee tapering devices. Two lower valves control dogs. Twenty-inch box contains Sel-Set device. Box is covered and dust sealed when it is in operation. It is extremely accurate.

ELECTRICIAN MARLOW WALL, who designed much of the wiring, stands by the group of relays which control the carriage. Panel is remotely mounted on wall free from carriage vibration and shock.

by a solenoid released blast of air, applied at this point from a key in the sawyer's right hand. This air, from the mill compressor, is led onto the carriage along with the electric cables.

ANOTHER REMOTE CONTROL originally on the carriage is that of the flippers. It has always been a button control of the sawyer's right hand. It gives him complete coordination with the Simonson type push arms and eliminates use of the hook in about nineteen turns out of twenty, increasing speed and avoiding damage.

There are forty flexible wires and three power wires enclosed in six cables, fed onto the carriage through a pantograph arm. Eight are extras for use in case of internal breaks or for additional functions. Most of the delicate relay switches are placed in a panel board located on the wall at the base of the pantograph

Numbered coupled terminal strips are placed at four points—on the carriage, at the entrance to the pantograph arm, within the relay boxes and below the saw pit. The same number follows through on each wire from hand key to final use. This makes changes or wire repairs very easy. Most of this wiring was worked out by the plant electrician.

In the saw pit a major change was introduced by turning the sawyer's hand from the traditional vertical to a horizontal position. The travel of the carriage feed lever has been made very short and very easy through use of a steering booster connected at the hydraulic feed valve. So has the operation of the log loader in the right hand. Each hand rests on the knob of an automobile steering lever and the sawyer has learned to "palm" it. That leaves his fingers flat and free to "play" the keys or controls like a pianist or typist.

THE SAWYER HAS SIX positioning or four-way keys in the upper bank of each hand and six momentary contacts in the lower banks. Some of the lower keys are connected to "knotching relays" which multiply their functions when the end action follows an invariable sequence. For example, the board dogs alternately close or open. One touch gives the first action, the next touch the second.

In the right hand the live deck is controlled with a momentary contact. The log stop and loader, with a momentary, the log hook with a positioning switch, the left skids by a momentary. Two of the momentary contacts have knotching relays giving them double functions.

In the left hand, in addition to the five "thickness" momentaries, there is one currently an "extra". One positioning key moves the knees forward and back without affecting the Sel-Set. Another raises and lowers the saw guide, a function given the sawyer when the tail-sawing was made automatic. Another turns the water on and off the saw. Another starts and stops the hydraulic pumping motor on the carriage. Still another will signal the foreman or millwright.

SAWYER WALTER BIGELOW at the "Piano Key" controls which control every action of the carriage, deck equipment and the saw, with the lightest touch. Twenty-two functions are performed by each control box.

The design of these "piano key" controls has been worked out at the mill over a period of four years. Fast-acting long-lived contacts of several makes, but of the "micro" type, are used throughout. Their selection and positioning under the fingers takes as much thought as would the placing of typewriter keys and much of it comes with use.

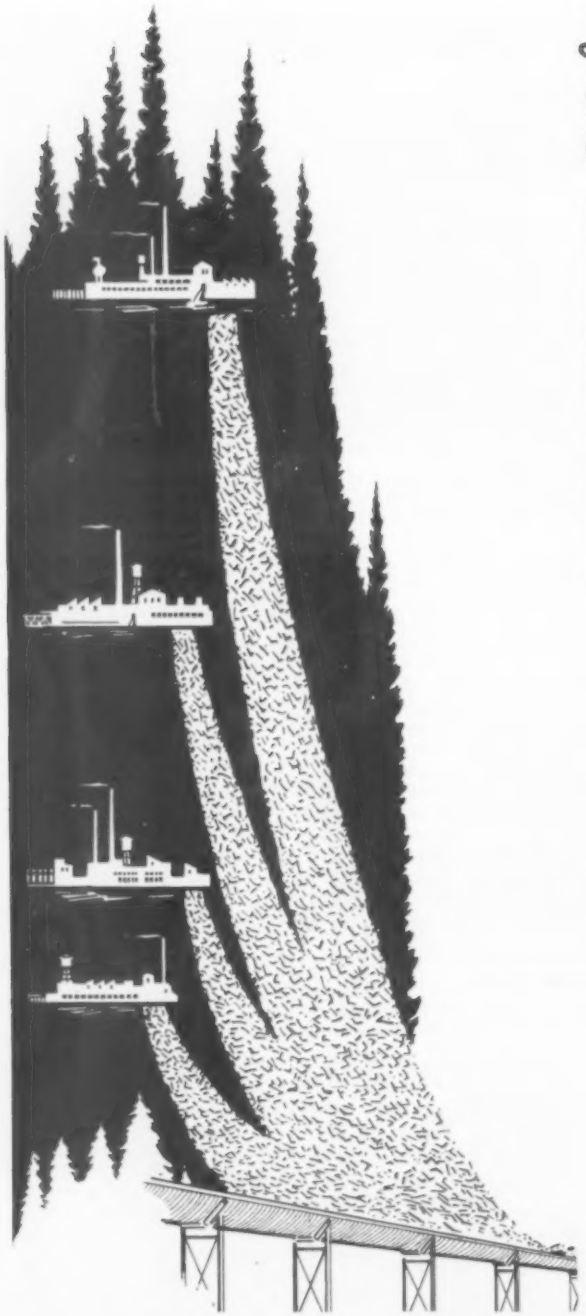
After 16 weeks of operation, production is equal to previous records. It will probably go to 105%. Less men are used, maintenance is light, sawing thicknesses are more uniform, taper sawing is done more regularly. The sawyers get a little lonesome but they say the rig does not "talk back" to them.

Remote Control Trends

Sawmill carriages in fifty years have evolved from hand operated three-man rigs to one-man semi-automatic, and now, to no-man completely automatic operation with remote control by the sawyer. There are air operated, hydraulic operated and electrically operated carriages, and combinations of all three. Each system duplicates in its own manner the original hand operations. Motions are still rotary or linear or reciprocating.

The set shaft which was rotated by a hand lever and ratchet may now have an electric, air or hydraulic motor to propel it. The gripping devices once operated by hand levers are now actuated by air or hydraulic cylinders or electric motors. Control of these automatic motions has evolved through hand and foot valves and switches to solenoid actuated valves and relays, which are subject to remote control with the use of contacts that will respond to the lightest finger touch.

The sawyer directs the crew about the headrig. Instead of holding up a combination of fingers which must be seen and understood by a setter, then applied to various valves or switch levers, he gets the same end results by lightly touching a key like that on a piano. This speeds the action and avoids misunderstandings.



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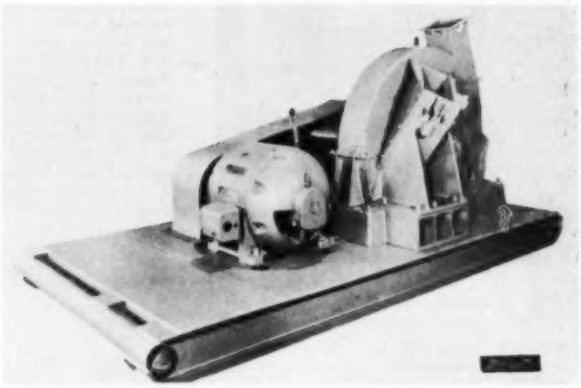
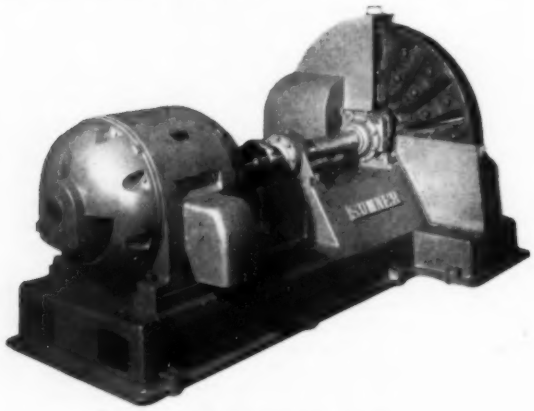
for a Chip hungry Industry



SUMNER Skid Mounted, Wide Spout Wastewood and Pulpwood Chippers



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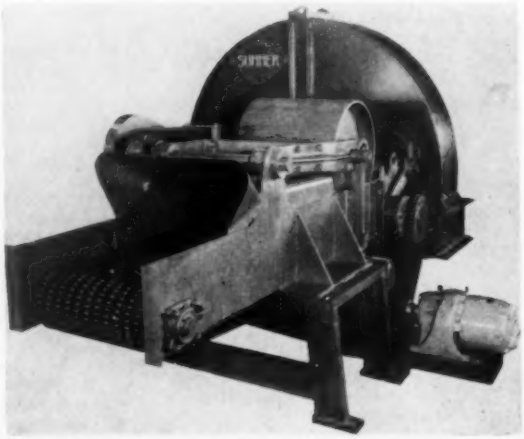

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SUMNER has the distinction of building the largest and the smallest as well as the widest range of chippers, including all accessories . . . regardless of size, output or other woodroom requirements.

ROBERTS Logging Company, Oakridge, Oregon, logs "cull" logs, as well as prime material, for Edward Hines Lumber Co. at Westfir. Here a Lorain Motocrane loads salvage logs on Cummins-powered Autocar truck and Pierce trailer for the 20-mile haul to Hines' mill.

Salvage Boosts Output

Oregon firm develops mobility to pick up prime trees and logging residuals.

CHANGING ECONOMIC CONDITIONS in the forest products field opens new business and job opportunities. Plant owners now find it advantageous to process wood material previously considered economically unsuitable. This extends productive horizons.

Activity on industry forest lands, in addition to prime logging, now ranges from thinnings to relogging and to close selection of "cull" logs, with a view to salvaging those which "pay their way" in sound, quality content. The "cull salvage" category has assumed economic significance to the plant owner, salvage logger, the employees of both, and to the regional welfare.

Roberts Logging Co., owned and managed by Edgar N. Roberts, Oakridge, Ore., is one of many firms in the industry either wholly or partially dependent on intensive wood utilization. For the Roberts firm it's an important, but not exclusive, consideration. As an important part of the organization's business, it logs salvage "cull" logs for Edward Hines Lumber Co. on contract basis. In that Roberts also contracts Hines' general log hauling at West Fir, he is not exclusively concerned in the salvage end.

Apparently adaptability and mobility are joint keys to successful salvage operations and apply to both equipment and personnel.

ROBERTS LAYS EMPHASIS on (1) well maintained, quality mobile equipment and (2) multi-skilled employees who can readily move into any woods job and carry on successfully. For the salvage work he has a three-man crew, operating a Lorain mobile loader, a D7 "Cat" and two to three trucks. The side averages around 30M board feet of logs per day. During summer months an additional D7 tractor works in conjunction with the loader. In the 8-month season, volume totals 5 million feet or more. It's

TIRE-MOUNTED Lorain Motocrane is loading rig. It is ¾ yard, 6-wheel drive unit, but Roberts increased its capacity to one yard by powering crane end with a 150 horsepower Cadillac gas engine.

not 100 percent salvage material, however, as this mobile side occasionally picks up scattered sound logs.

The tire-mounted loading rig is a ¾-yd. 6-wheel drive Lorain Motocrane, with gooseneck boom, which Roberts "beefed up" to 1-yd. capacity by powering crane end with a 150 hp. Cadillac gasoline engine (of the type used in army tanks) with water-cooled Hydramatic transmission, hook rollers and counterbalance. A 200 hp. Hercules gasoline engine provides power for travel. The machine's outriggers are not used because of frequent moves.

ONE OF TWO D7 Caterpillar tractors owned by Roberts skids logs to landing. This salvage side averages around 30M board feet of logs per day. In the 8-month season, volume totals 5 million feet or more, but some is sound material picked up.

According to Roberts, the Lorain heels a 3450 bd. ft. log. But when loading 5M ft. logs, just one end is lifted at a time. In pointing out the smoothness of loading, he says the production life of loader mainlines—B&B Yellow Strand—averages two million feet.

Robert's fleet of logging trucks consists of seven Cummins-diesel powered Autocars, most of them with Pierce trailers. Those not in use on the salvage side haul logs from the Hines' logging sides on contract. Five Hines trucks also participate on this main haul.

Radio-Controlled Logging

• A 37-year old West coast logger, Bill Koculyn, of White Rock, B. C., has been working for ten years on an idea for a radio-controlled overhead logging device.

Koculyn now has produced a scale working model which has tentatively been approved by the Workmen's Compensation Board in British Columbia. He has had some financial backing for starting a company to manufacture on a commercial basis.

Koculyn used to work as a rigger and he thought there must be a simpler way of operating an aerial hoist than the method then employed.

The tram or hoist of his scale model is propelled along a single cable by a series of radio-controlled gears which operate a chain drive traction mechanism. He hopes that his working model will be able to lift loads up to 100 tons. The single cable feature, operated by remote control, eliminating the need for riggers to ride the load, should appeal to loggers, Koculyn believes.

It is planned to give the machine a thorough test in the Mission district this summer. If it is successful Koculyn plans to lease units rather than sell them.

• **DAVIDSON PLYWOOD** and Lumber Co., Los Angeles, Calif., and Davidson Plywood Inc., San Diego, Calif., were liquidated June 30. All assets were transferred to Atlas Plywood Corp. The Davidson organization had been a wholly owned subsidiary of Atlas since 1952 and the liquidation was planned to streamline the management of the business.

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Now the best 300-horsepower Diesel is even better than ever—ready to step up production and cut costs in any job you name.

It's the time-proved General Motors Series 110 Diesel, newly equipped with a side-mounted blower similar to the one used on the famous 71 Series. It's a more compact engine. It's shorter. It's lower. It fits more applications than ever before.

You can have this new GM Detroit Diesel Series 110 engine installed in off-highway trucks and move bigger loads faster.

You can use it to increase the power of heavy crawler tractors, yarders and locomotives—get more work per day and per dollar.

And you can have this new Series 110 Diesel installed on sawmills to cut lumber faster at lower cost.

The new blower makes the Series 110 Diesel engine far more versatile—available with *either* right- or left-hand rotation, and wider range of accessory-drive outlets—*four* accessory drives on the rear of the engine and *four* fan-mounting positions on the front.

This new Detroit Diesel Series 110 engine takes on all comers in operating efficiency. It's a leader in work output per dollar. Let your local GM Detroit Diesel Distributor or Dealer show you what we mean.

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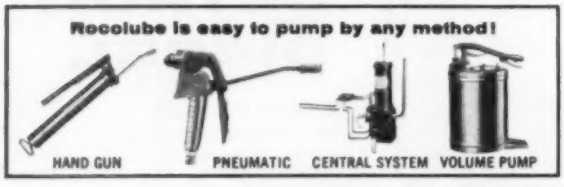
Previously, it took a lot of different greases to do all the jobs the gunman had to do. Sometimes a single plant would stock as many as forty or fifty types! But now *one* multipurpose grease meets all these needs. That grease is Richfield Rocolube.

HOW YOU BENEFIT

Richfield Rocolube can be used to lubricate everything from a small electric motor to a locomotive... including conveyors, water pumps and airplanes . . . trucks, track rolls and construction equipment! You *need* no other grease. This means that you save money so many ways: fewer, larger purchases are possible...inventory can be reduced...and the chance for lubrication error is virtually eliminated.

In addition to being versatile – and competitively priced – Richfield Rocolube has other fine qualities. It works as well in arctic cold as in desert heat. It's waterproof, tough and also easy to pump.



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DF Region Forest Soils Committee Meets in B.C.

• The Forest Soils Committee of the Douglas Fir Region was conducted over research projects and tree farms on Vancouver Island as part of the committee's annual summer field meeting on June 20 and 22nd. R. H. Spilsbury, B. C. Forest Service and T. N. Stoate, MacMillan & Bloedel, Ltd. led the tour.

Besides the B. C. Forest Service and MacMillan and Bloedel, the University of British Columbia, Arrowsmith Farms, Canadian Dominion Forest Service and Department of Agriculture and the Manning Seed Company, B. C. branch, contributed and participated.

In the Qualicum Beach area the group inspected the forest soils, rehabilitation and reforestation research projects of the MacMillan and Bloedel Ltd., Beaufort Tree Farm under the direction of Dr. Stoate, the tree seed extraction plant of the Manning Seed Company and the fertilizer field trials on the Arrowsmith and Beaufort farms.

Field inspections at Duncun and Cowichan Lake included fertilizer trials on Douglas fir reproduction, grafting of high elevation geno-type scions on low elevation root stocks to develop orchards of better high elevation seed sources and crops and trials of cross pollenization for better seed and seedling production.

Dr. Stoate was voted as a new member representing industry in the B. C. area. Other activities and progress in forest soils work were reported by the Committee members as follows:

• Robert Tarrant, Pacific N. W. Forest Experiment Station, reported that a Forest Soils Bibliography for the N. W. had been completed.

• A pamphlet on Forest Soils for use by elementary and high schools has been prepared by Committeeman Bill Lloyd.

• Crown Zellerbach Corporation has developed road specifications for class 2 and 3 roads based upon soils information.

• Weyerhaeuser Timber Corporation has carried on extensive field trials in land clearing, cat-trail scarifying and discing to place non-stocked lands back into production.

• MacMillan and Bloedel Ltd., in addition to their forest soilsite research work is planting nursery grown seedlings throughout the year to evaluate the effects of time of planting on survival and growth.

• The University of Washington has added two courses in soils for forestry students.

• The Bureau of Land Management forest soils inventory cooperative study with Oregon State College concluded its first year, reporting on soil-site correlations with land form and minor vegetation and means of pre-typing of land form and soil conditions from aerial photos.

• Committee Chairman George Schroeder and Secretary Stan Gessel reported that most chapters of the forest soils manual had been received.

• A MOTION PICTURE, "Lumber for Homes," filmed in the Northwest by the West Coast Lumbermen's Association, in one of six selected by the State Department for showing to Russian audiences in connection with the current tour of Russia by U. U. builders.

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SUPER TRACTION . . . load over drive wheels
POWER STEERING on large pneumatic rear wheels
SHUTTLE GEAR TRANSMISSION . . . Control lever on steering column
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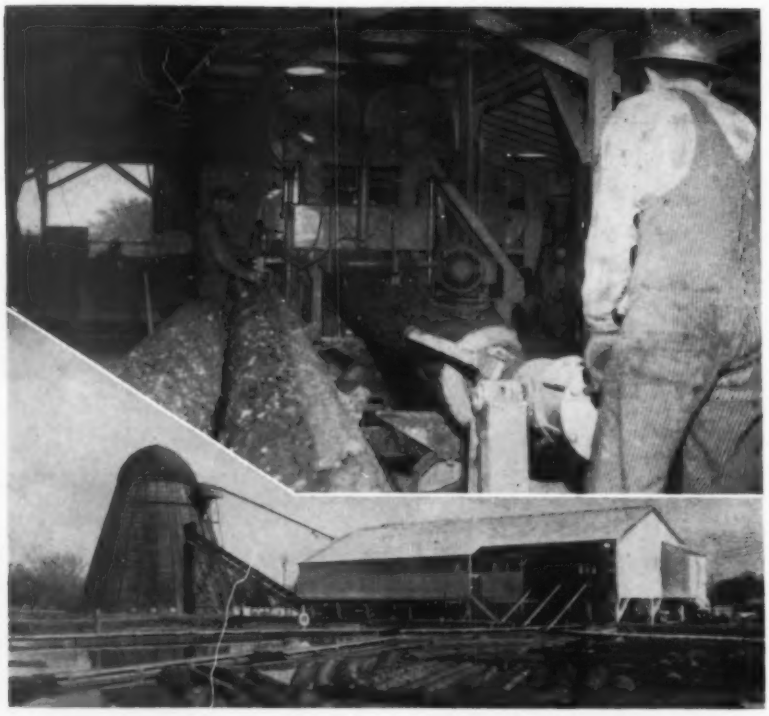


PAUL B. HULT LUMBER CO., Dillard, Oregon, operates 50M per shift gang mill on a two shift basis, along with two stud mills and planing mill working one shift per day to finish output. Phelps Bros. erected the burner and blower system shown at left in the lower photo. Top photo: Superior gang headrig handles logs 20 feet long, diameter up to 24 inches.

Log Gang Claims Features

Oregon Mill increases utilization with new air-run processing units.

A GANGMILL TO COMPLEMENT the firm's two existing stud mills, all located at Dillard, Oregon, has been added by Paul B. Hult Lumber Co. as its No. 3 sawmill. Partner-owners P. B. Hult and W. O. "Bun" Kelsey chose this type mill as a practical means of rounding out its production.

This newest plant, a 50M per shift gangmill, operates two shifts per day. A planing mill, erected on the same plantsite, operates one shift per day to finish entire lumber output of the gangmill.

Logs up to maximum size of 24-in. diameter and 20-ft. long are converted primarily to dimension at this mill. Processing components consist of a Superior log gang headrig V-belt driven by 75 hp. 1800 rpm. (Newman) motor and feed rolls powered by 3 hp. motor (Louis Allis) driving through a Dynamatic Corp. Ajusto-Spede, a Keystone (Machine Works, Roseburg, Ore.) 6 x 60-in. edger and a 20-ft. selective Mater trimmer from which stock discharges onto live rolls delivering to slope-transfer chains down to the green chain. Trimmer saws operate at 3600 rpm.

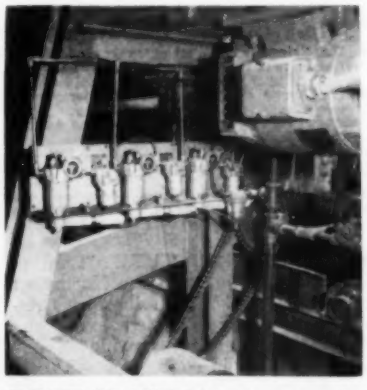
This 24-in. Superior headrig has unusual features for a log gang. It is Fafnir bearing equipped (feed rolls), has free-floating sash, and counterweighted crankshafts which minimize vibration caused by reciprocating action.

THE EDGER, DRIVEN by 125 hp. (Newman) motor, has four shifting saws at one side and 11 solid-tooth non-shift saws, spaced for cutting 1⅞-in. stock, at the other side. An air cylinder mounted on top of the edger raises and lowers the press roll and holds stock under pressure while going through the machine. A Gardner-Denver air motor, receiving air through pressure reducing valve, provides variable speed power for edger feed rolls. The feed table rolls are powered through the new Dodge Air-grip air clutch powered off the edger off-bearing table by roller chain drive. A Westinghouse Controlair pressure-regulating air valve controls the clutch.

Both the edger and selective trimmer are equipped with Alemite Oil-Mist lubrication.

Del Collinson, Portland registered professional engineer who, in association with Mater Engineering, designed the mill and supervised construction, points out the extensive use of capacitors as an important factor in this plant. Capacitors are used on all motors over 15 hp. He says, "The re-

MATER 20-FOOT SELECTIVE trimmer with saws V-belt line-shaft driven at 3600 rpm. by 30 hp. Newman motor. Stock goes from here onto live rolls to slope-transfer to green chain.



ALEMITE OIL-MIST lubrication system installed on the Mater trimmer in gang mill.

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has a tooth for every job!

Atkins is the oldest manufacturer of band saws in the United States and now is celebrating its one-hundredth year of quality saw manufacturing. With this experience, you are assured of the finest saws available today. Made of Atkins Silver Steel, heat treated and tempered by methods exclusive to Atkins—ground and tensioned by skilled saw makers. There is an Atkins wide band pattern for every job.

You can't buy experience, but you can buy the result . . . buy Atkins!

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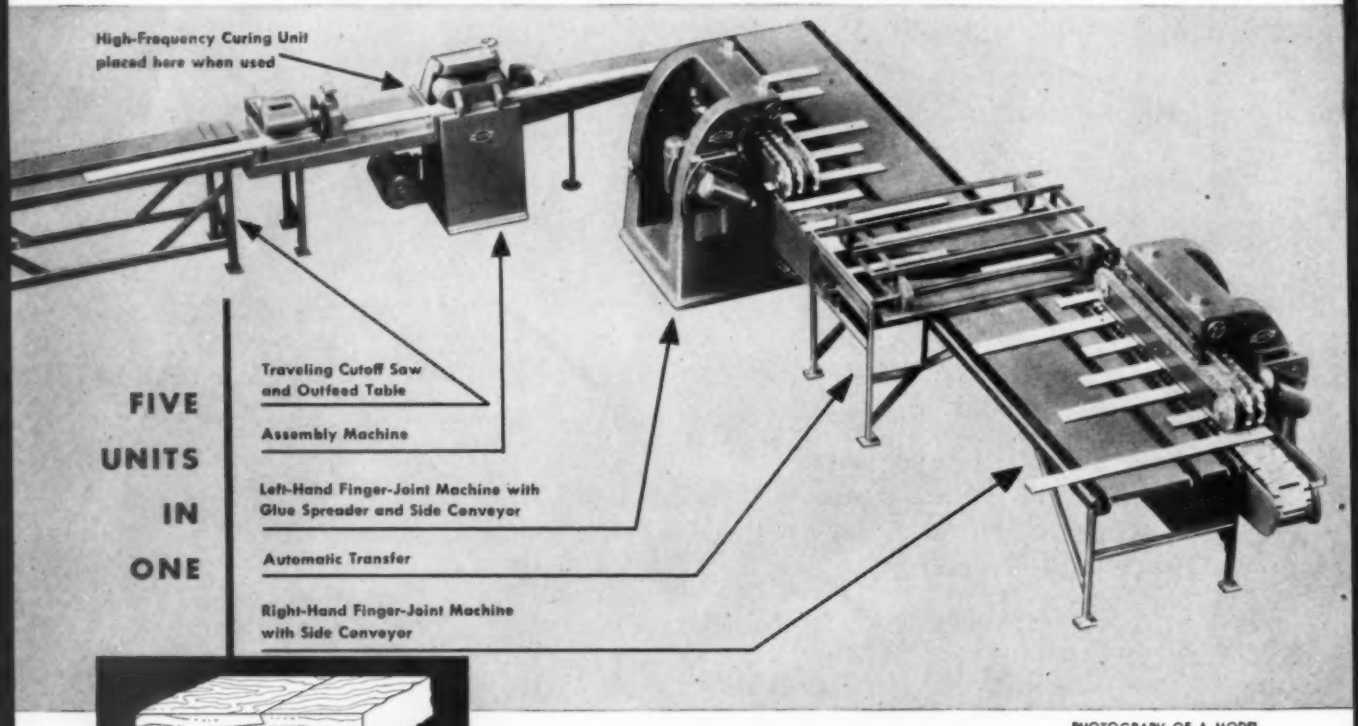
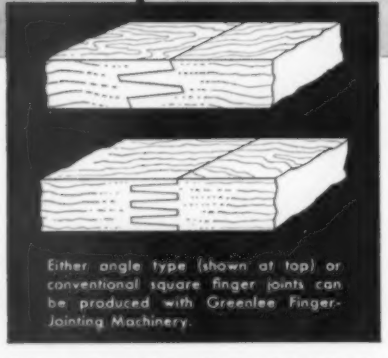
GREENLEE ANNOUNCES

automatic FINGER-JOINTING MACHINERY

an improved method of salvaging and upgrading lumber


High-Frequency Curing Unit placed here when used
FIVE UNITS IN ONE
Traveling Cutoff Saw and Outfeed Table
Assembly Machine
Left-Hand Finger-Joint Machine with Glue Spreader and Side Conveyor
Automatic Transfer
Right-Hand Finger-Joint Machine with Side Conveyor

PHOTOGRAPH OF A MODEL



Either angle type (shown at top) or conventional square finger joints can be produced with Greenlee Finger-Jointing Machinery.

Automatically processes stock up to 2" thick and 6" wide

The wide range of this Greenlee machinery, which handles random stock lengths from a minimum of 6" and in thicknesses up to 2", makes it highly versatile for meeting most lumber upgrading or salvaging requirements. If you are now scrapping stock in these dimensions, you may find this one of the finest production investments you can make. May we make a study with you?

Accurate, high-speed production means extremely low cost per finger joint

Now, the full merit of the finger joint can be efficiently utilized to bring big material savings and new profits to you. With the new Finger-Jointing and Assembly Machine developed by GREENLEE, you can economically upgrade lumber and reclaim thousands of feet of random-length scrap stock per day. A typical mill now being built by GREENLEE can do all this: (1) Cut off stock, score, cut the right-hand finger joint; (2) automatically transfer the stock and feed it into the second machine, which, in turn, cuts the matching left-hand joint; (3) apply glue to the joint; (4) assemble the stock for a tight, smooth fit of the matching joints to make one continuous length of lumber; (5) cut off the assembled stock at a predetermined length and kick it off the outfeed table. Due to the high speed and advanced machining methods of this new GREENLEE equipment, cost is low for each finger joint . . . a fraction of the added value taken on by providing uniform, long lengths of stock! If lumber is a basic raw material for you, it will pay you well to investigate this profit-making new machinery. Write for descriptive folder.

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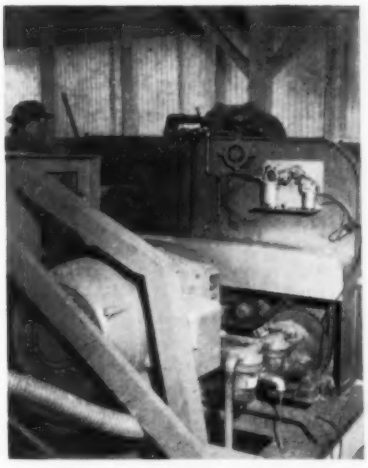
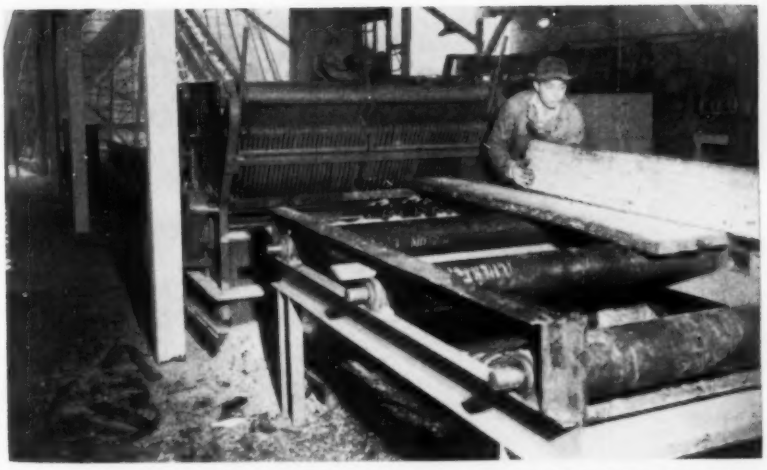




CYLINDER ACTIVATING hold-down roll (top), Alemite Oil-Mist lubrication (center) and Gardner-Denver air motor (bottom) driving feed rolls of Keystone edger, at left. Right photo: Keystone edger with feed rolls driven through Dodge Air-Grip clutch.

sultant improvement of the power factor facilitated substantial savings in size of motors, wire and switches, and assures better performance of motors involved." It's also expected to reduce the plant's consumption of current.

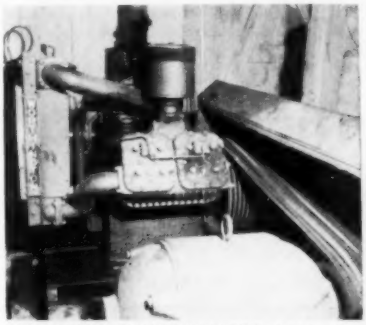
Installation of an additional bank of capacitors outside the mill is anticipated.

A WORTHINGTON COMPRESSOR, powered by 75 hp. Westinghouse motor, provides industrial air for use throughout the mill. Westinghouse gear motors, purchased through Tillman-Booth Co., Eugene, power floor chains, roll cases, conveyors, sorting chains and transfers.

The planing mill has a chain type breakdown, 6 x 15 Yates planer, 80-ft. sorting chain and two-saw defect trimmer.

The gang, trimmer, compressor, planer, burner, blower system and part of the motors were provided by Elmer Worth, of Sel-Set Co. He also assisted in the overall mill planning. Other suppliers: J. W. Mider Chain & Gear supplied chain (Moline and Morse roller), sprockets, Dodge-Timken bearings and rolls; American Steel & Supply (Eugene) and Industrial Supply Co. (Roseburg) furnished conveyor and structural steel; Industrial Supply also provided Valve-Air control valves. Phelps Bros. erected the plant's 70-ft. burner and installed planing mill blower system.

Fred Albertus, superintendent of this new mill, functioned as construction superintendent during plant erection.



WORTHINGTON COMPRESSOR, V-belt driven by 75 hp. Westinghouse motor, provides the industrial air for the Hult plant operations.

Bulldozer School Helps British Columbia Loggers

• What is believed to be the only school of its kind—a school for bulldozer operators—has been established at the Nanaimo, B. C., vocational training center for the benefit of young loggers and construction workers.

Jack McCreedy, principal of the vocational school, organized the program to fill an acute need for trained operators. The training period for the inaugural class is set for two months, but future terms may be lengthened or shortened, depending on present observations.

Instruction is carried on by Tommy Ryn of Nanaimo, a veteran cat operator for Comox Logging & Railway Co., who drove the first Caterpillar D9 to be delivered in British Columbia, and Cliff Taylor of Hope.

The school represents effective cooperation between government and industry. Both federal and provincial authorities contributed to costs of the training and logging companies and equipment dealers have supplied the machines. Comox Logging donated one tractor and Finning Tractor & Equipment Co. provided two additional D8 Caterpillar units. Pacific Tractor & Equipment gave the school an Oliver diesel tractor.

The class is split into sections, each with an instructor and a tractor. The boys are given 20 minute sessions on the tracks. When they are not operating they read grade stakes, make cable splices or watch other students operating. The instructors tell the student operators what to do and then discuss what happened after the test run has been made. Tractor maintenance is also a subject for instruction.

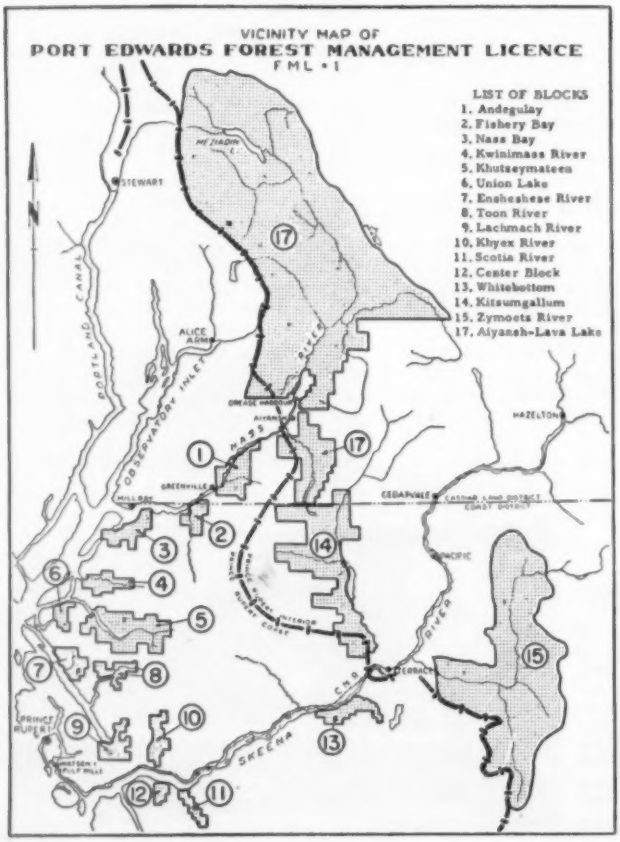
The course costs each student only $1.75 a day for room and board. Tuition is provided free. Early in June there were 250 applicants.

INSTRUCTOR TOMMY RYN (left), Comox Logging & Railway Co., one of instructors at bulldozer school in Nanaimo, B. C., points out mechanical features of tractor engine to HALVOR LASKEMOEN, young B. C. logger attending the course.

PATCH-LOGGING is practiced at Columbia Cellulose Company's Kitsumgallum River valley operation in northern British Columbia. The company's total forest area comprises 668,400 acres.

They Log Farthest North

Pulpwood show at Terrace, B. C. turns out 100 million board feet annually.



BRITISH COLUMBIA'S FARTHEST north major logging operation is that of Columbia Cellulose Co. in the valley of the Kitsumgallum River, a tributary of the mighty Skeena, where more than 100,000,000 feet of logs are being taken out annually.

The Skeena flows into the Pacific, and close to its mouth is located Columbia Cellulose's 300 ton high alpha pulp mill, part of an operation that represents an investment of some $55,000,000 in the past half dozen years. Most of the logs harvested on the Kitsumgallum are used as pulpwood, the balance being exchanged with other companies operating sawmills near the town of Terrace, since the pulp mill has no use for cedar.

Terrace, located on the main line of the northern section of the Canadian National Railways system running from Robson west to Prince Rupert, is the logging base for Columbia Cellulose. From this point logs are shipped by rail or river to the mill. The distance between Terrace and Prince Rupert, close to the site of the mill on Watson Island, following the course of the Skeena, is about 90 miles. While most of the logs are rail-shipped, about 5,000,000 feet were flat-rafted last year and towed down the Skeena to the mill.

Columbia Cellulose Co. is one of the two British Columbia subsidiaries of Canadian Chemical & Cellulose, which in turn has Celanese Corp. of America as its parent. The other subsidiary is Celgar Development Co., which has plans for a $30,000,000 integrated wood-processing industry near Castlegar, in British Columbia's Kootenay district.

WHILE COLUMBIA CELLULOSE follows conventional logging methods, a unique feature of its operation is the variety of the transportation methods it practices. It is a truck-river-rail combination and subject to variations from season to season and year to year.

Columbia Cellulose has a whole empire of timber to work on during the coming years. While most of the

Supervisory Personnel

Wentworth Brown is vice president and general manager of the company's overall activities in British Columbia. Charles B. Dunham is director of forest operations.

R. C. Telford, formerly with the British Columbia Forest Service, is woods manager at Terrace, with supervision over the Kitsumgallum operation, and Lloyd Evans, formerly with MacMillan & Bloedel, is general superintendent. Hank Buncombe is construction superintendent and Archie Cambrin forester.

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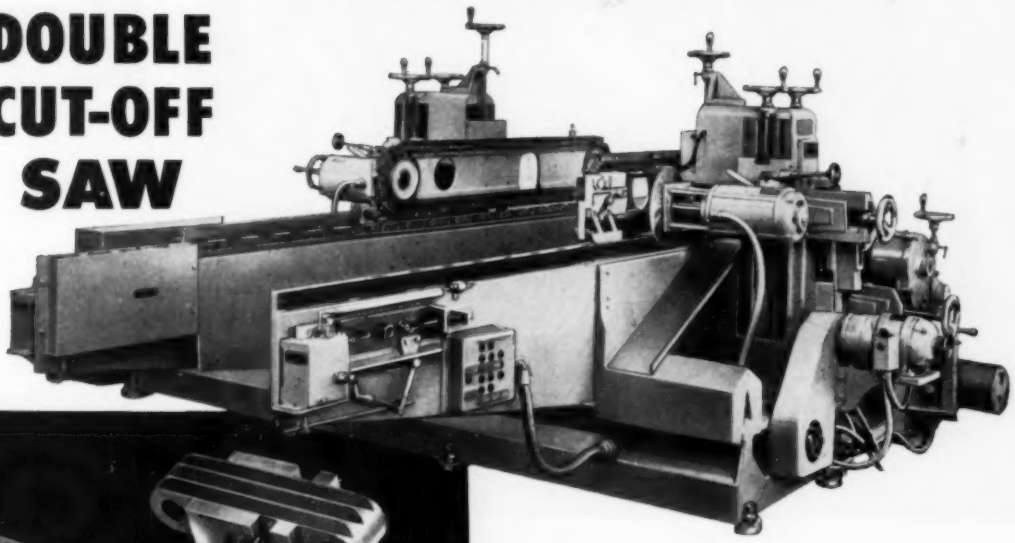

with the MULTI-V CHAIN

This special chain is furnished on the M-J No. 300. Note the 45° angle of the three V grooves to prevent sideways movement. The inverted center link clearly illustrates the full length bearing surface in both horizontal and vertical planes. There is approximately 55% greater horizontal and 95% more vertical bearing area than with low angle single V-chain. Patented snap dogs are standard equipment.

The No. 300 is offered to meet varying working conditions. It can be equipped with regular or high speed cope motors, stationary or jump dado arbor or other accessories as required. The sturdy, welded steel construction . . . rubber block hold-downs . . . snap-on feed dogs . . . and variable feed drive are only a few of its outstanding features.

Write for the No. 300 Bulletin

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... to test performance, speed reordering

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LESCHEN WIRE ROPE DIVISION
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St. Louis 12, Missouri

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logging is now concentrated in the valley of the Kitsumgallum, loggers will soon be working in the Aiyansh country and the Nass River valley.

This is all forest that has never before been exploited; in fact the territory has been known only to Indians and trappers in the past. As a result of the company's expansion loggers are becoming familiar with a new assortment of Indian names like Khutseymateen, Ensheshese and Kispiox. The timber is included in Columbia's forest management license—the first to be issued in the province—and it comprises 668,400 acres. It will be developed on a sustained yield basis.

On the Kitsumgallum, most of the logging is by high-lead during the spring, summer and early autumn. In the winter tractors are used almost exclusively, depending on snow conditions. Although some of the area is subject to heavy snowfall, sometimes as much as five feet deep in places, the weather and other general conditions, including topography, are not greatly different from those of Vancouver Island.

THE KITSUMGALLUM FLOWS at a speed of about six miles an hour. The company takes advantage of this by driving about 8,000,000 feet of logs down the river; but compared to that some 75,000,000 feet are trucked. In each case the delivery is to the main reloading point at Terrace, where rail cars are loaded or provision is made for building flat rafts for the tow down the Skeena to the pulp mill.

Originally, it was proposed to organize a river drive down the Skeena for the bulk of the logs used, but this proved impractical owing in part to the width of the river, its comparatively slow flow and the shoals and obstructions that led to a great many hang-ups along the route.

Logs that are not shipped by rail are towed in flat rafts by River Towing Co. of New Westminster, headed by Cecil Cosulich, who has specialized in river logging and has had extensive experience not only on the Skeena but on the Nass and the Fraser. His boats on the Skeena are the 30 foot Canyon II, designed by Edwin Monk of Seattle, and equipped with a 163 h.p. GM, and the 26 foot Paul C., powered by a 120 h.p. GM.

Unusual Holding Pond

The holding pond was created by ingeniously utilizing a bend in the river. It encompasses about 20 acres and it is the result of blocking the Kitsumgallum's old channel and bulldozing and dyking it, with a sheer boom set up at the northern or entry end so as to permit logs from the river to be floated into it. The pond is held to approximately the same level as the river, so this procedure is a relatively simple one. Logs are loaded out from the pond and onto rail cars by a simple spar tree and heel boom device.

COLUMBIA CELLULOSE CO.'s log pond, created by blocking off a bend in the Kitsumgallum River and sealing it with a sheer boom. Columbia logs mostly pulpwood for its mill.

Sixty percent of the timber in the Kitsumgallum valley runs to hemlock, with about 30 percent balsam, 5 percent spruce and 5 percent cedar. In the logging operation, the company maintains about ten high lead settings, with the power units including Berger portable spar trees, Skagit, Tyee, Hayes and Westminster yarders, some with Gearmatic transmissions. The loaders include a 2 yard Lima, a 1 yard Insley, rubber-tire mounted, a Skagit SJ4 and a 1½ yard Northwest shovel.

THE COMPANY HAS a fleet of about ten tractors, mostly Caterpillar D6's and D7's and International TD 14's and 18's. These units are also used to some extent for yarding and road construction.

One of the interesting pieces of mobile equipment is a 50-ton low bed trailer built by Columbia Trailer Co., which is used primarily for transporting boom-type loaders, skidders and other heavy equipment. Hauled by logging truck, the trailer is equipped with eight 1400x 20 Goodyear tires, 50,000 lb. Kay-Brunner axles and 20 x 8 Kay-Brunner brakes with Westinghouse air units.

On the truck haul, a fleet of about a dozen machines is available, including Internationals with 250 h.p. Hall Scott gas engines and six Mack trucks, powered by 175 h.p. gas engines. The company also has three Macks powered by 200 h.p. Cummins diesels. In addition, there are four contractors who supplement the company's equipment to some extent. The truck haul to the Terrace holding pond and reloading point is about 15 miles long; the maximum distance to be covered by the river drive on the Kitsumgallum is 12 miles. One of the advantages of using the river and its pond adjunct, of course, is that it potentially eliminates a 28-mile truck haul.

In the general area tributary to Terrace the company has several smaller camps, such as on the Khyex, the Toon and Khutseymateen Rivers and Fisher Bay.

RECENTLY ANNOUNCED PLANS of Frobisher Exploration Co. to build a $50,000,000 power project on the Nass River, north of the Skeena, is expected to lead to further development of the area. It may help the loggers to some extent by opening up the country with additional access

(Continued on page 122)

BERGER PORTA-TOWER is one of the modern pieces of yarding equipment used at Columbia's far north show. It is sled-mounted.

FLOATING LOGS DOWN the Ljungan River in the Province of Medelpad, located in northern Sweden. (All photos courtesy of the American Swedish News Exchange, Inc., New York City.)

Regrowth Exceeds Drain

Sweden's Timber Resources show rise, with more pulp utilization

FOREST INDUSTRIES HOLD a key position in Sweden's economy. They account for about one quarter of the total Swedish industrial production and no less than one-half of the total exports. Consequently, the forest industries' supplies of raw materials are a problem of paramount importance for the country's economy. The situation at large is satisfactory, with rich resources in the South and Central parts of Sweden, somewhat overtaxed in the North, and a good regrowth all over the country.

Two countryside forest censuses, so-called national forest surveys, have been carried out in Sweden. The first one was conducted during the years 1923-1929, and the second during the period 1938-1953. These stock-takings, both of which were extremely thorough and far-reaching, based on the sampling method, indicate that the supply of timber in the Swedish forests has shown a not inconsiderable rise.

If trees of at least ten centimeters in diameter (1 centimeter is equal to 0.394 inch) at breast height are included, the increase in the timber supply between the two surveys may be calculated at about six per cent. The "lumber forest," i.e. trees with a diameter at breast height of at least 25 centimeters has increased still more rapidly—by about 12 per cent.

The total timber supplies in the Swedish forests, according to the latest national forest survey, amount to nearly 1,900 million cubic meters, or more than 65,000 million cubic feet (1 cubic meter is equal to 35.3 cubic feet) of solid mass with bark. This figure covers all kinds of wood above breast height. Spruce is the principal kind of wood (807 million cubic meters), followed by pine (747 million cubic meters). Birch and other deciduous trees have a total volume of 320 million cubic meters.

The quantity of coniferous timber available for use in the forest industries has been estimated at well over 30 million cubic meters per annum. No essential changes in this quantity are foreseeable—at any rate not within the next ten years. The recent increase in the forest resources indicates that the actual coansumption of timber in the forest industries has not been so large as the supply of raw materials would have permitted.

For the five-year period 1946-1950 the forest industries' consumption of timber has been estimated at an average of 25.5 million cubic meters a year, about equally divided between the two dominant industries—sawmills and pulp mills. In 1950, when a larger quantity of timber was consumed than in any previous year since 1937, the timber consumption was about 27.5 million cubic meters, which means that the supply exceeded the demand by about three million cubic meters. Thus, insofar as it depended on the raw material supplies the output in 1950 could have been approximately ten per cent larger than it actually was.

THE PRODUCTION OF PULP in 1954 is likely to have been ten to fifteen per cent higher than in 1950, while the sawmills' output may be computed at one or two per cent below the 1950 level. These changes correspond to a rise in the consumption of timber by roughly five per cent compared with 1950.

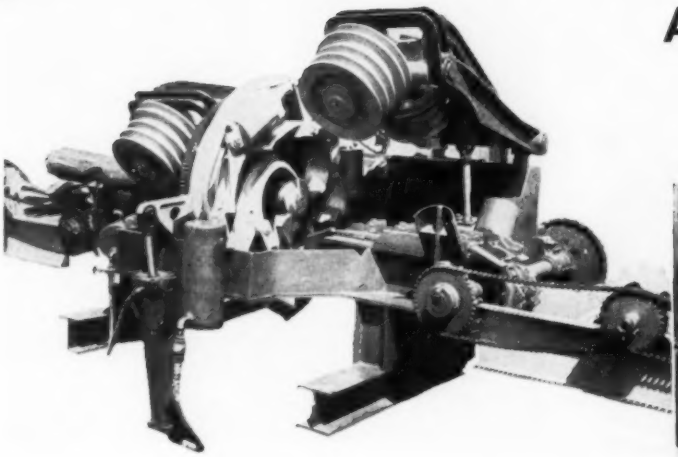
Thus the production of the forest industry as a whole is still several per cent below the potential timber supplies. This estimate tallies closely with the preliminary calculations of the forest industries' timber requirements recently worked out by a special committee. According to these calculations the total requirements of timber in 1953 amounted to 28.6 million cubic meters, leaving a surplus of 1.7 million cubic meters.

This account of the timber situation needs, however, to be supplemented in one respect. The supply of spruce wood in the country falls

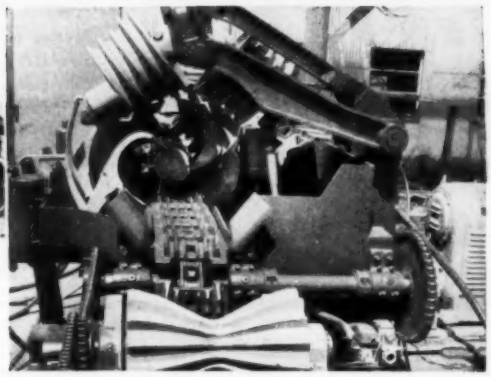
THE TORSVIK Sawmill in Sweden. Forest industries account for one-half of Sweden's exports.

INTRODUCING THE *New 26"* NICHOLSON ROTOBARKER

AN EFFICIENT MECHANICAL LOG BARKER



Over-all view showing rugged construction of 26" Rotobarker. Note: Chain feed for positive feeding of rough logs.



End view showing barking tools in contact with log. Log does not rotate, tools rotate around log.

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TYPICAL FOREST lands in northern Swedish Province of Medelpad.

FOREST REPRODUCED BY shelterwood system at Nacke. This cutting method has been practiced in central Sweden for a long time.

SORTING OF THE timber logs at the sorting place of Sandslan in the Province of Vasterbotten in Sweden, as was done in 1950.

short of estimated requirements by one or two per cent. This shortage, which is more keenly felt in regard to pulp wood than logs, is due mainly to the rapid expansion of the sulphite industry. The capacity of the spruce-consuming industries at present exceeds the raw material supplies. However, the spruce resources in the Swedish forests are increasing more rapidly than the pine resources, so that an improvement in the situation may be foreseen—provided, of course, the industry does not overexpand.

When the prospects of the forest industries judged from the raw material standpoint are assessed, allowance must be made for the substantial potential reserve of raw materials that exists in the large quantities of hardwood lumber, small wood (soft wood under 3″), and sawmill residues, all of which have so far been utilized on only a relatively small scale. Considerable unexploited resources of hardwood exist in Norrland, where the possible annual cut of this kind of wood is estimated at five million cubic meters—about four-fifths thereof being birch.

For a number of years past, birch and aspen have been used with success and on an increasing scale in the manufacture of cellulose. Owing, however, to difficulties connected with the floating of birch logs, the use of this kind of lumber is still relatively limited. The quantities of unexploited small wood in the country are estimated at seven to nine million cubic meters per annum.

THAT QUANTITY CORRESPONDS to between a third and a half of the pulp industry's estimated raw material requirements. If the residue from all the sawmills in the country were to be fully used—at present only about a third of the available annual quantity of nearly three million cubic meters is being utilized—this would give about 350,000 tons of sulphate cellulose, equivalent to approximately one-third of the entire sulphate production in 1953.

Owing to its geographical extent, Sweden can hardly be regarded as one single industrial region. In order to gain a more detailed and realistic picture of the forest industries' timber supplies it is necessary to assess the raw material situation in each of a number of smaller regions. This way of looking at the problem brings out considerable variations within different parts of the country.

The forest resources in upper and central Norrland, where the forest industries' center of gravity still lies, and where, in consequence, lumbering has been more intensive than in other parts of the country, have diminished between the two national forest surveys by about four per cent, if trees with a diameter of at least ten centimeters at breast height are counted. On the other hand, the forest resources in central and southern Sweden have within the same period increased by no less than 25 per cent. In consequence of this development some shortage of lumber has arisen in Norrland, whereas there is a surplus in the rest of the country.

THE REGIONAL VARIATIONS in the supplies of timber have confronted the forest industries with a number of problems. The center of gravity of those industries has been moving south—a process that has become more and more intensified in recent years. The capacity of the pulp and wallboard industries south of the province of Dalecarlia is estimated to have increased from an average of five million cubic meters during the period 1946-1949 to about seven million in 1953. On the other hand, a number of industrial units in upper Norrland have been closed down since the prewar years.

Lumbering in that region has therefore been slowed down and the balance between the regrowth and the consumption of lumber has improved.

Although there are local shortages of timber of one kind or another which give rise to various problems of adjustment, the situation as a whole is quite satisfactory.

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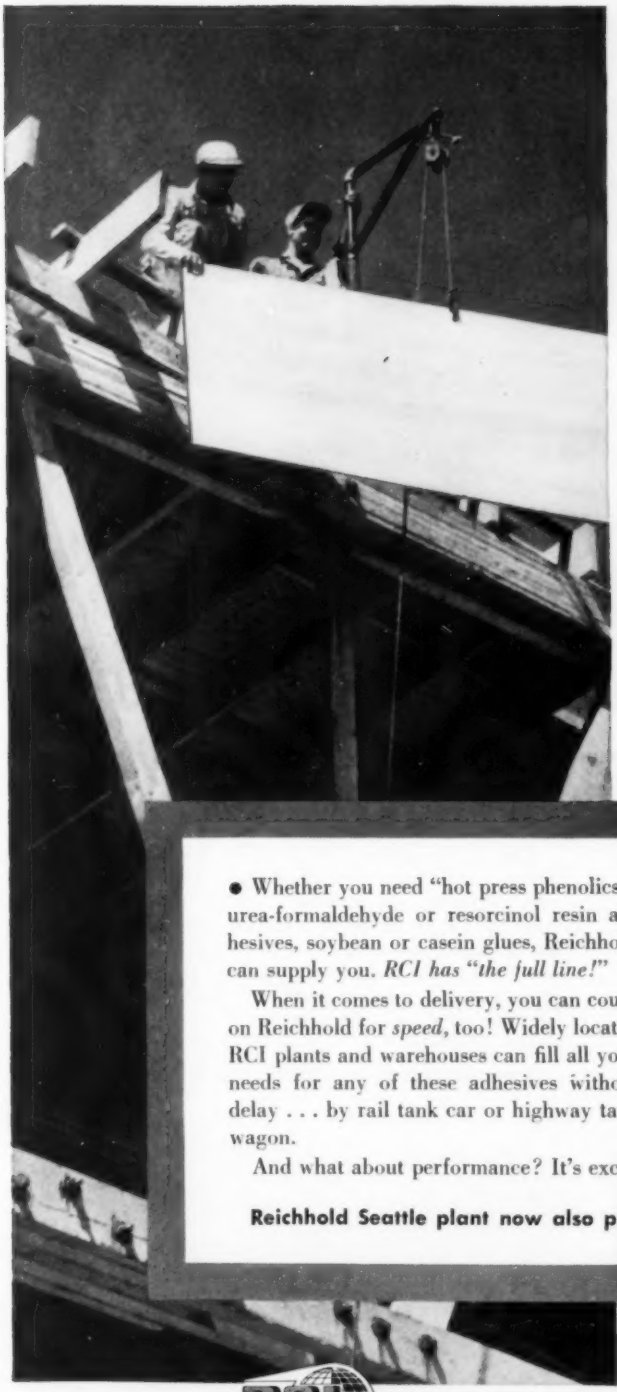

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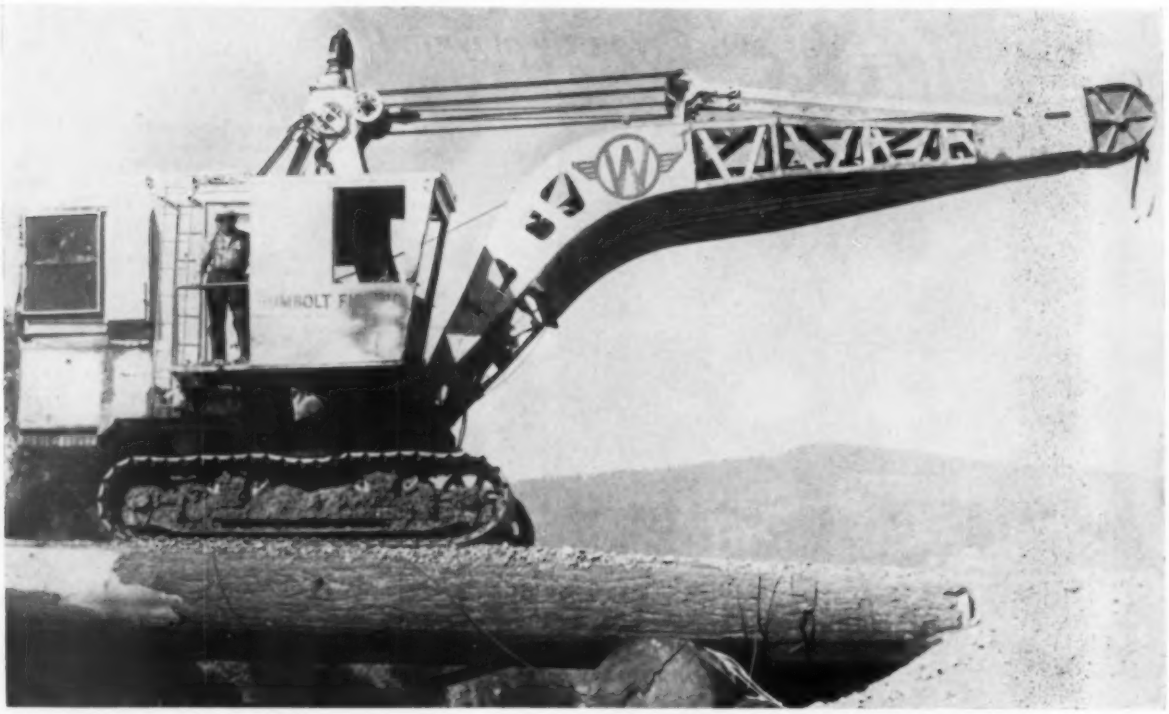


"An all-around workhorse* that paid for itself by reduced logging costs in 2 years"

Humboldt Fir Inc. has been using this model TL-15 Washington Trakloader in the fir and pine country around Hoopa, California for three years. "The Trakloader has done a far better job than I had ever hoped it would", says Sam Arness, president and general manager. "It is an all-around workhorse that paid for itself by reduced logging costs in less than two years."

Not only is the Trakloader doing a record job yarding and loading, but often the versatility of the big machine has kept it busy between logging operations.

Like in December, 1955, when floods destroyed the bridge serving the town of Hoopa. The Trakloader was used to set up and operate a skyline across the swollen river to bring supplies to the town and transport finished lumber from the mills to waiting trucks. Earlier in the same year, the Trakloader was used to help construct a summer logging bridge across the Trinity River, wading into the river to haul in logs and position them on the bridge supports.

Even setting communication poles around the mill area

The Trakloader did not hesitate in wading right out into the Trinity River at Hoopa, California to build this summer logging bridge. The bridge facilitated bringing logs to the cold deck at the Humboldt mill.

The Trakloader performs many services around the Humboldt mill area when not in use in woods operations. Here it sets an aerial pole for the new two-way radio system used to keep in contact with the crew.

Not to be beaten by a flood that destroyed the only bridge at Hoopa, mill owner Sam Arness rigged up a skyline across the Trinity River with the help of his Washington Trakloader. With this skyline system supplies were shipped to the town and finished lumber from the mills transported to market.

was a job the Trakloader was called upon to do in off hours.

In the woods operations the Trakloader loads out an average of 4 million feet per month, doing 90% of all the loading on the Humboldt show. When necessary, the Trakloader can yard as well as load, traveling along the right of way and snaking in logs from as far as 500 feet. The fast 4 mph travel speed of the Trakloader, combined with versatility and ruggedness, offer big advantages in the rough country around Hoopa. The Trakloader must move an average of twice a week to keep pace with the logging operations. On one occasion, it traveled 30 miles in one move.

The Trakloader does more than its share, working a nine-hour day taking out fir and sugar pine logs running from 1200 to 7500 feet with only three men in the crew.

Not many loggers will be faced with the same emergencies and problems as Sam Arness, but all logging shows can benefit from the power and flexibility of the Trakloader which enable it to "fit in" wherever it is needed.

There are over one hundred Trakloaders working in every kind of logging terrain and under all conditions throughout the western United States, British Columbia, Alaska and the Philippines. Ask any Trakloader owner. He will tell you that no other machine for logging can do the same all around job because no other mobile yarder-loader has the proven reliability, performance and economy of the Washington Trakloader.

Above, a load of lumber is hauled across the flooded Trinity River via the Trakloader skyline. Below, supplies brought in by truck and plane are transported back across the river to Hoopa.

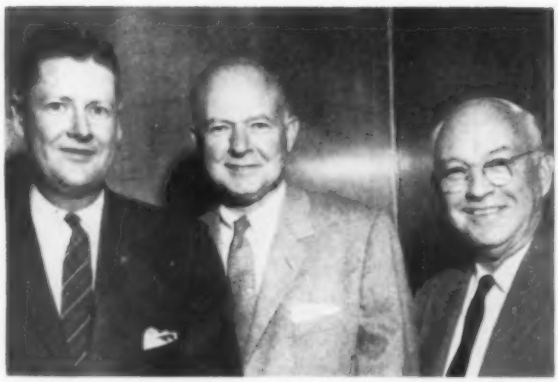
*Washington TRAKLOADER

1500 Sixth Avenue South, Seattle 4, Washington

Elliott 1292

For complete specifications on any of the four models of the Trakloader write to Washington Iron Works, 1500 Sixth Ave. So., Seattle 4, Washington

WASHINGTON IRON WORKS



WHOLESALE Lumbermen's leaders. From left: J. WARD ALLEN, director; J. PHILIP BOYD, president; and SID L. DARLING, executive vice-president.

New Officers

President: J. Philip Boyd, Chicago, Illinois.

Vice-Pres.: Martin T. Wiegand, Washington, D. C.

Executive Vice-Pres.: Sid L. Darling.

Treasurer: Frank S. McNally, New York.

Assistant Secretary: Charles J. Fisher, New York.

Western Manager: Paul C. Stevens, Portland, Ore.

[illegible] Western Manager: Donald S. [illegible], Portland, Ore.

Wholesalers Anticipate Sustained Prosperity

• The lumber industry can safely look forward to a period of sustained prosperity, President J. Philip Boyd, of Chicago, told fellow members of the American Wholesale Lumber Association at their 64th annual meeting, held in Vancouver, B. C., June 19-20.

More than 70 delegates attended the convention, which was the first to be held in Canada and on the Pacific Coast.

In addition to the regular business transacted, the members listened to significant addresses from H. R. MacMillan, chairman of the finance committee, MacMillian & Bloedel; Arthur H. (Red) Motley, New York publisher; and Dave Davis, of San Francisco, Hoo-Hoo's Snark of the Universe. They visited the Harrison operations of Canadian Forest Products to see how big timber is being logged.

While pointing out that prevailing opinion in the U. S. was that North American business will continue bouyant, Boyd said that he felt uneasy over certain aspects of the economic situation, and one of the points some people seemed to overlook was the large part being played by government spending. "Tax wise, the U. S. is practically on a war footing," he said, adding that more and more people were becoming worried not only about confiscatory taxation, but how a possible war could be financed on top of the present burden.

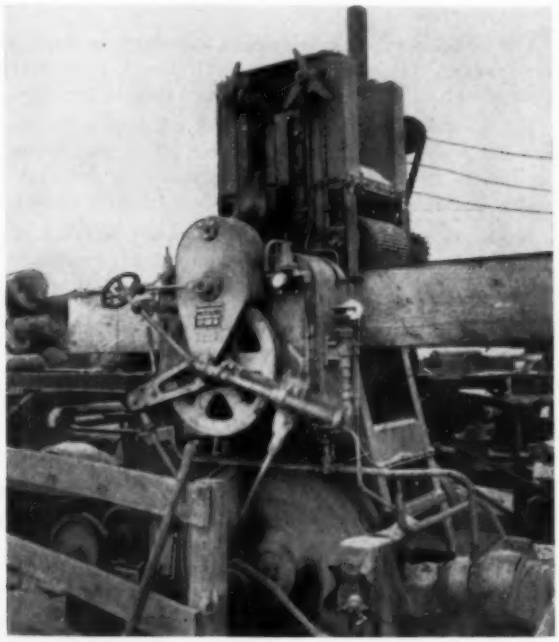
MacMillan emphasized the importance of the Canadian market for the U. S., pointing out that at no time in history had one country (the U. S.) had such a big customer (Canada). He told how Canada's trading deficit with the U. S. had been growing, particularly during the last few years, and declared that the only way this deficit could be met was through American purchases in Canada. He made a strong plea for reduction of U. S. tariffs to enable more Canadian goods to be sold in the U. S.

The only way to move lumber stocks is to get out and hustle, Motley told the meeting, who chided the lumber wholesalers for failing to carry out an effective selling campaign.

"Don't sit down on the job," urged Motley. "You may be on the right track, but if you sit down you might get run over. The solution to all business ills is to create the right climate."

The Vancouver group who made arrangements for the meeting were J. Ward Allen, W. Howard DeCew, R. W. Scott, James R. Gray, A. M. Matheson, Paul Cantwell, A. W. Breen, Gordon Douglas, Charles R. Widman.

MARATHON 24M PER shift cant gang, purchased through Portland Machinery Co., was installed last summer at Roy Skow Lumber Co., Lewiston, Idaho, in conjunction with the double-circular sawmill.



WEHRHAHN GANG, in operation at the Lewiston, Idaho, operation of Joe McCann, was purchased from Evergreen Equipment Co. The unit was test run here before being put in McCann's new mill at Weippe.

Built-in Extra Pull

when you need it

Wide throat of this C Tournapull-Arch has ample clearance to handle large loads. Sturdy Arch is all-welded, strongly reinforced. Tires are protected by heavy steel-plate fenders. Operator is protected from brush and tree branches by sturdy steel canopy.

Here's a fast, rugged logging tool that skids big loads over rough trails at truck speeds. Whenever the grade or underfoot conditions require it, the skidder can shift into high-range low-gear and have "electric-assist" motors automatically cut-in with a powerful extra pull on the rear wheels. You keep load moving with this new C Tournapull-Arch . . . even up the steepest of your haul grades. You can also pick loads off a mountain side where you have to return up slopes with grades ranging to 50%.

Big 260 hp GM diesel engine on the 2-wheel prime-mover, and two electric-assist motors on Arch wheels give you automatic 4-wheel drive . . . when you need it. Dashboard control permits manual cut-out of rear-wheel drive when desired.

C Tournapull-Arch built for high-speed skidding:

Speed range . . . 8 speeds forward to 25.3 mph . . . 2 speed reverse 2.9 and 3.9 mph. 260 hp GM 6 cyl. diesel.

Multiple-disc air brakes on all 4 wheels with 3840 sq. in. of braking surface give quick, safe control on steep grades and curves. Electrotarder gives additional braking action through resistance on generator.

90° turning angle, right or left, 180° turn in 29′ 5″ width. You can make 90° turn while traveling with load. King-pin steer through geared electric motor . . . positive, fast.

Instant electric controls, push-button operated from central control panel.

Electric motor-driven winch on Arch, where it can pull-in with Arch at any angle from prime-mover. Skids "around the corner". Independent power permits yard-in while traveling.

Ample winch capacity . . . with bare drum to 71,200# . . . with full drum to 53,400#. Line will pay out on power from full drum at 172 fpm. 2-speed motor for slow-in, fast-out line. Quick release line-speed out unlimited.

Big rubber tires, 24 x 25 24-ply, give good flotation and traction.

Bulldozer blade, 58″ wide, 46½″ high, specially constructed for rolling logs. Electric-winch gives fast, positive up-and-down cable-control.

Heavy steel-plate fenders on Arch inside rear wheels protect tires. Wide, high throat handles big loads. Arch easily adjusted to desired height.

Safe, easy operation. Power-steer through wheel with "feel". Comfortable deep-cushioned seat with form-fit back. Power brakes.

For full details about this new, powerful C Tournapull-Arch, see your nearby LeTourneau-Westinghouse Distributor, or write direct.

Two electric-assist motors, one on each rear wheel, give powerful 4-wheel drive automatically when extra power is needed to climb steep grades.

Tournapull—Trademark Reg. U.S. Pat. Off. CA-1147-L-b

LeTourneau-WESTINGHOUSE Company, PEORIA, ILLINOIS

A Subsidiary of Westinghouse Air Brake Company

ARBA

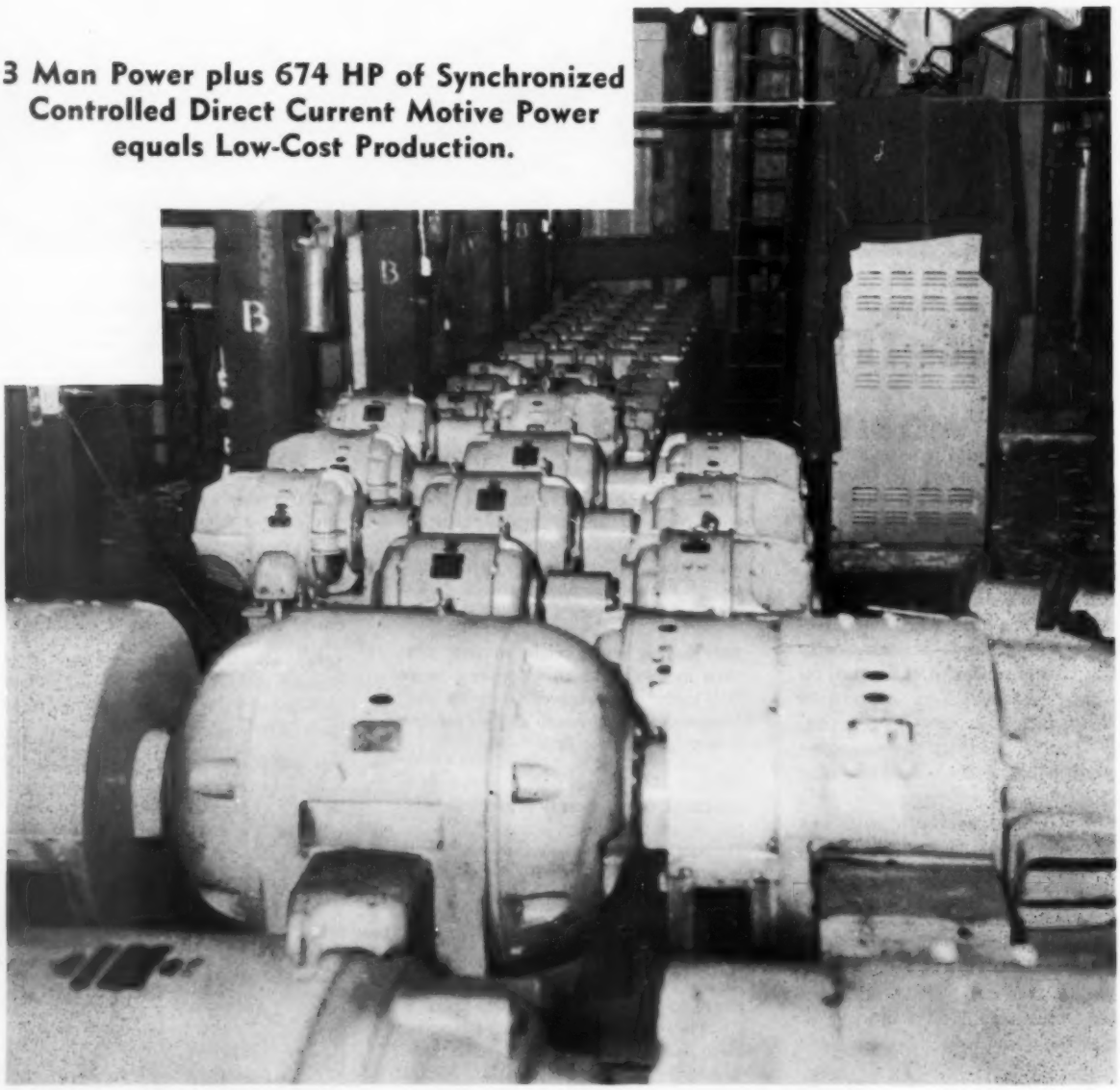
See you at the ROAD SHOW • Chicago • January 28-February 2, 1957

Management Foresight plus DESIGN and ENGINEERING

by The C. Kirk Hillman Company

equals AUTOMATION

3 Man Power plus 674 HP of Synchronized Controlled Direct Current Motive Power equals Low-Cost Production.



Automation at the new Simpson Logging Company Barking Plant resulted from the foresight of Simpson Management and the efforts of Simpson Engineers working closely with the "Know-How" Engineering and Manufacturing Facilities of the C. Kirk Hillman Company.
Illustrated are some of the AC-DC Power Units which drive the variable-speed constant torque motors and automatic synchronized controls now installed in the Shelton, Washington plant.

C. Kirk Hillman Company

3201 First Avenue South ★ ELiot 6561 ★ Seattle 4, Wash.

Central Plant Barks All Logs

(Continued from page 70)

The new plant while serving an immediate useful purpose fits into the Simpson Logging Company's overall expansion program and, as time passes, is expected to become an increasingly important production unit.

Major Suppliers

Following is a list of major material suppliers for the central barking plant:

NICHOLSON MANUFACTURING CO., Auburn, Wash.
60" Log Barker.

INDUSTRIAL ELECTRIC SERVICE CO., Aberdeen, Wash.
"Western" gear reduction units for the following drives:
Main Log Haul.
Log Haul, Barker to Mill No. 2.
Barker Drive.
G.E. Pacific gearmotors for refuse conveyor drives.

I. W. JOHNSON ENGINEERING CO., Tacoma, Wash.
All deck machinery, such as deck skids, loaders, kickers, sprockets and shafting.

C. KIRK HILLMAN CO., Seattle, Wash.
All drive motors, motor generator sets, control equipment and DC powered gear motors for log hauls, barker, deck chains and canting gears. All drives in the plant are direct-current powered, except the refuse conveyors, air compressor and hydraulic power units.

SUMNER IRON WORKS, Everett, Wash.
All loader and kicker cylinders. These are operated on 100 PSI air pressure.
Air powered axe splitter.
66" Angle Face, 16 knife chipper. This is installed at Mill No. 1 on a separate project, but is required because barked logs are now available to Mill No. 1.

L-M EQUIPMENT CO., Portland, Ore.
All block sawing equipment consisting of two chain saws, adjustable log stops, leveling jacks and a control console for push-button control of the block sawing operation.

INGERSOLL RAND CO., Seattle Office
150 H.P., Type XLE Air Compressor.

WASHINGTON BELTING AND RUBBER CO., Tacoma, Wash.
All deck chains and roller chains for drives. Deck chains were manufactured by Portland Chain Manufacturing Co., Portland, Ore. Roller chains were manufactured by Chain-Belt Co.

PACIFIC CAR AND FOUNDRY CO., Seattle, Wash.
Steel fabrication and erection of log haul from bay to Barker deck and from Barker to Mill No. 2.

WEST COAST WOOD PRESERVING CO., Seattle, Wash.

CASCADE POLE CO., Tacoma, Wash.
These two companies shared the job of creosoting piling and timbers.

ELECTRIC STEEL FOUNDRY CO., Portland, Ore.
All round link manganese chains and flights for log hauls and refuse conveyors. Also sprockets and drums for the log hauls.

FOUGHT AND CO., Portland, Ore.
Fabrication of steel for refuse conveyors.

VIKING AUTOMATIC SPRINKLER CO., Seattle, Wash.
Complete sprinkler system for fire protection.

NICHOLS BOAT WORKS, Hood River, Ore.
20 ft. boom boat.

FULLER AND LANGELAND, Shelton, Wash.
General contracting.

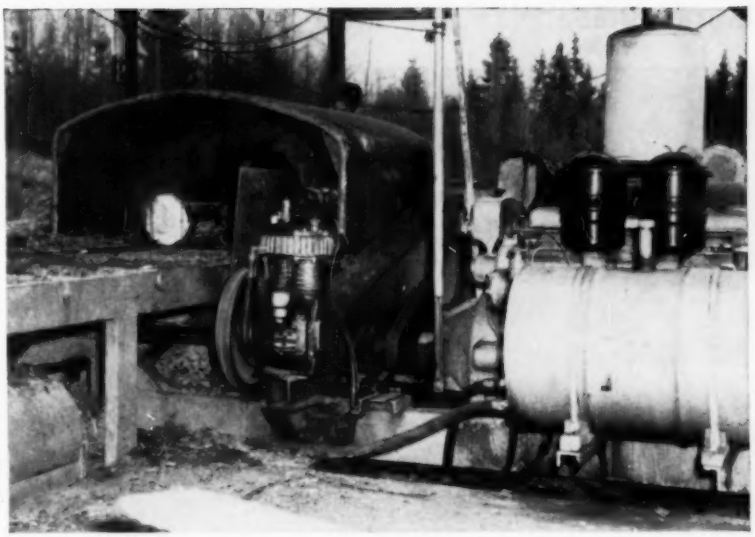
KIMBEL CONSTRUCTION CO., Shelton, Wash.
Pile driving and hoisting service.

GRAYSTONE OF SHELTON, Shelton, Wash.
Concrete.

The complete list totals nearly fifty supplier companies. Some of those listed furnished other miscellaneous items which are not mentioned here.

Bate Moves Head Office

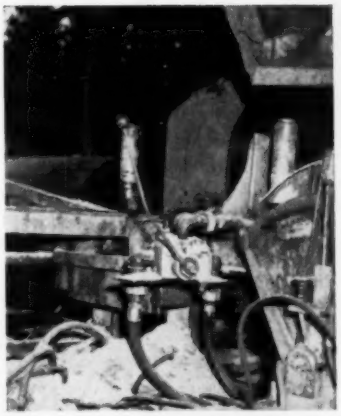
• The Bate Lbr. Co. have moved their Portland executive offices to the Terminal Sls. Bldg. They have very comfortable and convenient quarters in this attractive building. Bate Lbr. Co. operate a new sawmill and plywood plant at Merlin, Ore.



Portable Skrag mill, with hydraulic reservoir on right and Aeroquip Flexible Hose Lines.

Portable Saw Mill Fluid Line Replacements Simplified With Aeroquip Bulk Hose, Reusable Fittings

Profitable portable saw mill operations call for constant production with minimum downtime. Take a tip from Consolidated Lumber Mfgrs. of Seattle, Wash. Consolidated replaces damaged hose lines quickly from a small supply of Aeroquip Bulk Hose and Reusable Fittings. Only shop tools are needed to make hose assemblies of any length, right in the field. For more information, call the Aeroquip Distributor listed in your Yellow Page Directory, or write for Bulletin 152.



Aeroquip hose lines supply hydraulic controls on this automatic mill.

Aeroquip

AERO-COUPLING CORPORATION

(A Subsidiary Of Aeroquip Corporation)

3015 Winona Avenue, Burbank, Calif.

SALES OFFICE AND WAREHOUSE FOR OREGON, WASHINGTON AND IDAHO:

SPARKS-WILLS, INC., 1624 S. E. GRAND AVE., PORTLAND 15, ORE.

Ripsaw Blade Diameter and Power Are Correlated

A BATTERY OF straightline ripsaws. These are overcutting machines, in which saw blade teeth tips cut down into a groove in single feed chain, eliminating sliver trouble. Photo courtesy Mattison Machine Wks. Rockford, Illinois.

Announcing Our

New Seattle Branch

MANITOU

EQUIPMENT CO.

5602 - 1st Ave. So. • Seattle 8, Wash.
Phone: MOhawk 9010

Distributor In
Western Washington and Oregon For—

CRANES – SHOVELS – LOG LOADERS

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SERVICE

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R. W. Johnston
Assistant Manager

MANITOU EQUIPMENT CO.

SEATTLE, WASH.
5602 1st Ave., S.
MOhawk 9010

PORTLAND, ORE.
3251 N.W. Front Ave.
CApitol 7-3418

• Spindle motors employed on modern straightedging ripsaws, may be ten, fifteen or twenty horsepower, depending on the heaviest work one expects to process. The motor is sixty-cycle. Revolution of the saw spindle is 3600 rpm in all cases.

These machines allow new saw blades 14 inches in diameter to be mounted. Such blades can be employed until they are reduced (by repeated sharpening) to a diameter of 9 inches. Obviously it is inevitable that as diamteter of a saw blade gradually reduces, and spindle speed remains constant, rim speed on the saw will automatically and continually lessen. The saw-diameter range mentioned falls well within the practicall ripping-speed range, however.

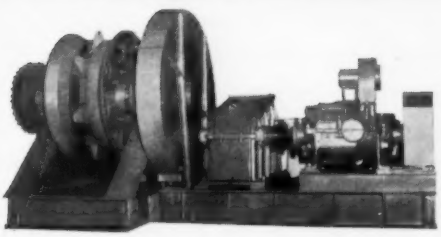
There is a definite relationship between saw blade diameter and power required for driving the blade. More power is required for removing a given amount of wood with a saw blade than with a knife-type machine or cutterhead. A number of teeth are cutting at the same time, and there is inevitably a certain amount of side friction, which sets up a certain amount of resistance to the cut. However, on modern machines, side friction is reduced to the absolute minimum, due to the efficiency with which saw teeth are side-dressed.

The larger the diameter of the blade being used, the greater will be the amount of power required to drive it satisfactorily, other things being equal. With a large-diameter saw, a greater leverage is in action, tending to bring the blade to a standstill. Thus, considering a 14-inch diameter ripsaw blade, a 7-inch lever is in action from the teeth to the arbor axis, against which work resistance is acting to oppose the turning of the blade. On a 12-inch blade, one will have only a 6-inch lever acting, and on a 10-inch blade, only a 5-inch lever.

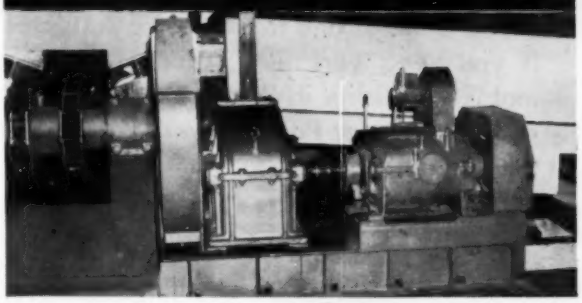
When a ripsaw blade is placed on the arbor, it is important that it be placed in the same radial position in respect to that arbor each time it is mounted. There are cases where the hole or eye in the center of the ripsaw blade may be absolutely concentric with the periphery of the blade, yet teeth in the blade will not describe a perfect cutting circle when set in action, because the hole in the arbor is a hair larger in diameter than the saw arbor on which it is mounted.

In such an instance, gravity acts to localize all discrepancy that might be present to one side of the arbor. Teeth in the blade will consequently travel in a slightly eccentric path, with only a few teeth on one side of the blade doing most of the work. Naturally, where teeth on a saw blade are jointed directly on the arbor on which the saw is run, they are brought into a perfectly true running circle. However, where the saw is always put on the arbor in the same radial position, a smaller amount will need to be removed to produce perfect running truth.

SIMPSON selects WESTERN GEAR "integral" log hauls!



Main log haul drive operating from the log pond to barking floor. WESTERN GEAR "integrated" log haul includes herringbone speed reducer, enclosed spur gear head shaft drive and bronze angle bearing head shaft assembly mounted on common bedplate.



Level log haul drive operating from top of main haul to barker.

Dependability in the log hauls was a "must" specified by Simpson Logging Company for its new whole log barking plant at Shelton, Washington. WESTERN GEAR supplied the answer with its "Integral" log hauls designed to meet the exacting engineering requirements which the Simpson Logging Company specified in keeping with its progressive position in the lumber industry. Major lumber and pulp and paper companies rely on WESTERN GEAR equipment to give them trouble-free, years-on-end operation. Why not profit by their experience, no obligation! Address General Offices, WESTERN GEAR, P. O. Box 182, Lynwood, California.

Check these Western Gear features:

• Single compact "integral" unit. • Ease of installation, with lower cost. • Easily adapted to *your* requirements. • Flexible speed controls. • Minimum wear from vibration and shock loading. • Increased operational life. • Flexibility of design. • More efficient mill operation.

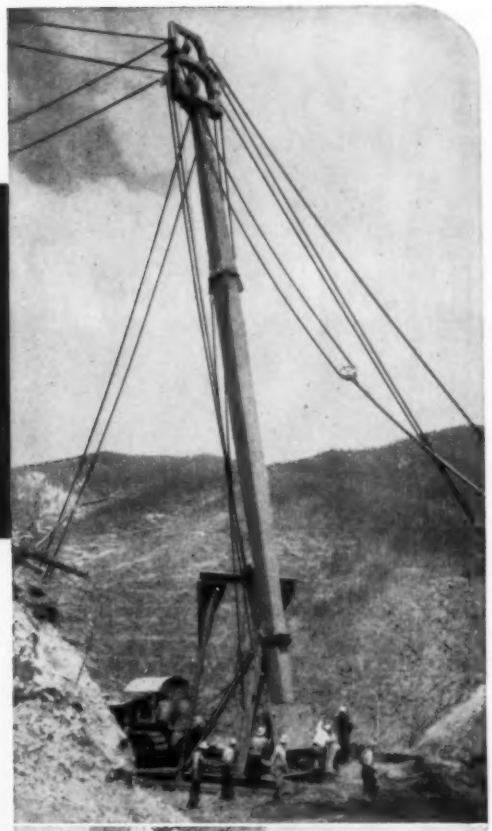
"The difference is reliability" • Since 1888 5625

WESTERN GEAR *Corporation*
ENGINEERS AND MANUFACTURERS

Plants at Lynwood, Pasadena, Belmont, San Francisco (Calif.); Seattle and Houston—Representatives in principal cities

Top: **Berger Porta-Tower nearly vertical as erection proceeds on Paul Anderson Logging Company's operation, near National, Washington.**

Bottom: **Close-up of Berger Porta-Tower base shows triple drums on HD-19—Jackson Logging's Lunch Creek operation, Quinault Indian Reservation.**



Logging's New Look . . .

HIGH MOBILITY

Stars the BERGER PORTA-TOWER

You're working in cedar swamps where a heavy rain can turn your show into a sloppy lagoon. Spar trees, with roots strong enough for high-lead logging, are not to be had. How do you solve that problem and save money too? Jackson Logging Co., Moclips, Wash., found the answer with a 90′ tractor-operated Berger Porta-Tower and a self-designed 50′ truck-mounted tower—both steel and both with that "new look in logging"—high mobility. "To stay in this gyppo contracting business," says Eugene Jackson, "you've got to move all over and set up fast." He adds that their Berger Porta-Tower is erected and rigged in 2 to 4 hours, saving at least 2½ days over the usual time for rigging a tree. If your settings and landings are restricted . . . if you need versatility, economy AND high mobility (which is itself a saving), then investigate the Berger Porta-Tower. Write for illustrated folder.

Berger

Loaders . . Yarders . . Fairleaders . . Blocks . . Air Tongs . . Bridge Cranes . . Loading Booms

Tops in Performance — Tops in Lasting Values

BERGER ENGINEERING COMPANY

3236 SIXTEENTH AVENUE S.W. · SEATTLE 4, WASHINGTON, U.S.A.

F. & F. EQUIPMENT COMPANY, LTD., 401 E. First Ave., Vancouver 10, B. C. • Dickens 7308

Announcing the appointment of Monarch Forge and Machine Works, Inc. Dealers in Oregon, Washington, California and Idaho for...

Wurster & Dietz Gang Saws

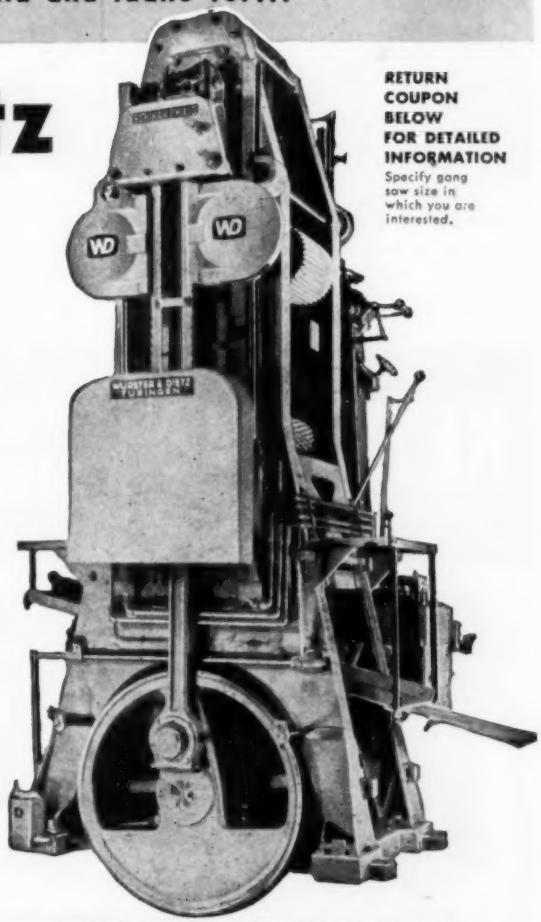
Shown here is the G.X.V. series for round log or cant operation, one of the models already proved by use in the Northwest for the past 3 years. This and other sizes in this famous German gang saw line are now available direct from Portland, Oregon. These gangs are heavily constructed for West Coast service under severe conditions. Standard American bearings used throughout. As added insurance for uninterrupted lumber production, Monarch service facilities are available on round-the-clock basis.

24-hour Service on Parts and Repairs

Complete stock of parts for Wurster & Dietz gang saws is carried at our plant in Portland. Monarch heavy duty machine shop and fabrications facilities are among the most complete in the Northwest.

Factory-Trained Installation and Service Men

Installation is completed by factory specialists from Wurster & Dietz who are permanently located in the Northwest. Thorough training will be given your operating and maintenance crews.

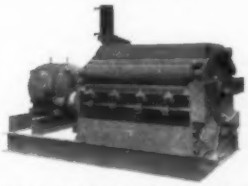


RETURN COUPON BELOW FOR DETAILED INFORMATION
Specify gang saw size in which you are interested.

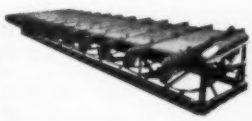
WURSTER & DIETZ MODEL GXV. Capacity up to 28"x28". Production ranges from 45,000 to 89,000 per 8-hour shift. Other models available from 18" to 47". Production ranges from 20,000 to 180,000 ft. per shift.

Write for information on any of these NEW 1956 Monarch Designs . . .

4" - 6" - 8" - 10" - 12" STUB EDGERS



TRIMMERS
Overhead or undercut models



CHIP CONVEYOR

LIVE LOG DECK
With Log Turner and Stop and Loader

TABLE EDGERS

Monarch
Forge & Machine Works, Inc.

To: MONARCH FORGE & MACHINE WORKS, Inc.
2130 N. W. York St., Portland 10, Ore.

Gentlemen: Please send me your catalog on Wurster & Dietz Gang Saws. And/or send me additional information on the items I have listed

_____

_____

NAME _____

ADDRESS _____

PLATFORM IN HIGHWAY lane (left) has electronic equipment to detect single and dual axle weights exceeding legal load limits.

The device works on fast-moving truck, flashes to weigh station sign (right) indicating overloaded trucks, which will be stopped.

Log Truckers Beware! Electronics Will Get You!

• Two sights that will become common to truck drivers along the highways in months and years to come! A platform (7x11 ft.) located in the highway lane plus new electronic equipment which may be set to detect single and dual axle weights that exceed the state limits as the truck rolls down the road at 60 miles per hour. The treadles in the platform surface sense whether the instrument is to check single or dual axle overloads, and also whether the axles are centered (or 100 per cent) on the platform.

Overloaded axle will cause an electric sign to illuminate:

TRUCKS ONLY
ENTER
WEIGH STATION

with the right hand vertical arrow in bright red. Axles checked within the legal limit will instantaneously cause the sign to read:

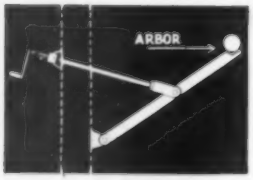
TRUCKS ONLY
DO NOT
ENTER
WEIGH STATION

and the left hand vertical arrow will show bright green. Installations similar to this are already in operation in Virginia, Minnesota, and Connecticut. Used in conjunction with a weigh station the purpose of the new unit is to permit all legally loaded trucks to pass by the weigh station without stopping . . . and to pull into the station only those trucks whose axles that are close to or over the state limits. This will be a time saver for operators who are careful in loading their cargo.

• **STUMPAGE PRICES** on a recent timber sale on the Mt. Baker National Forest near Darrington, Wash., were as follows: Douglas fir, $23/M; cedar, $23.80; and hemlock, $8.75. Three Rivers Plywood & Timber Co., Darrington, was awarded the sale, which totalled 34,400,000 bd. ft.

KEYSTONE | Heavy Duty STUB EDGER

Built to any size-to any production requirements



EXCLUSIVE
Arbor support crank for easy saw removal.

EASE OF OPERATION — LONGER LIFE OF WORKING PARTS — POSITIVE SHIFTING AND LOCKING INSURING GREATER CUTTING ACCURACY — MAKE THE KEYSTONE STUB EDGER YOUR BEST BUY!

Shifting forks work on rotating shafts for easy shifting and locking. Oversize alloy arbors carry greater load capacities. Heavy duty edger mounted on "H" beam base includes extension for mounting motor.

Infeed and outfeed tables furnished to fit your specifications.

Your headquarters for:
- **STUB EDGERS**
- **BATTERY EDGERS**
- **EASTERN EDGERS**
- **SALVAGE EDGERS**

WRITE **for fuller details today — no obligation.**

KEYSTONE
MILL, LOGGING AND INDUSTRIAL MACHINISTS
MACHINE WORKS

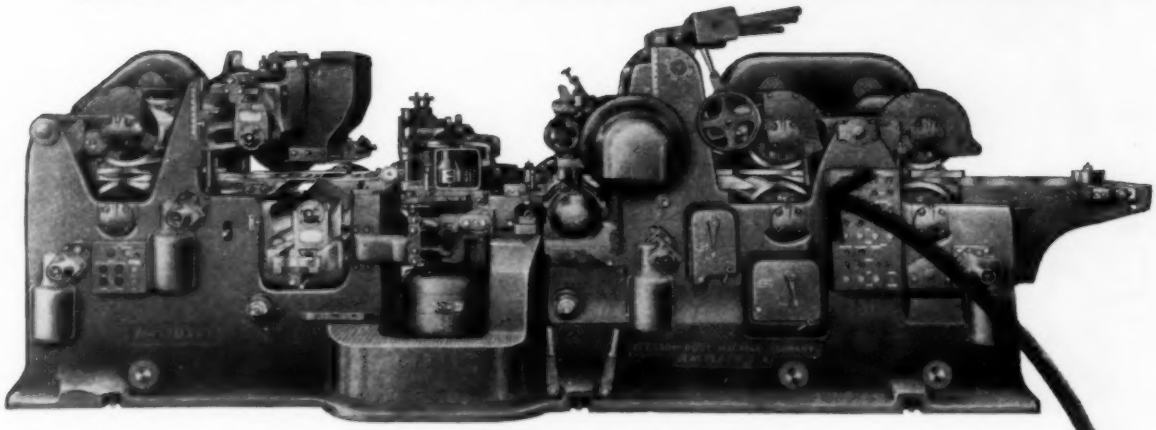
526 N. E. Chestnut St., P. O. Box 269
Roseburg, Oregon
Phone: ORchard 3-6619

STETSON ROSS

CLAM SHELL

TRADEMARK

QUICK CHANGE FEED ROLLS



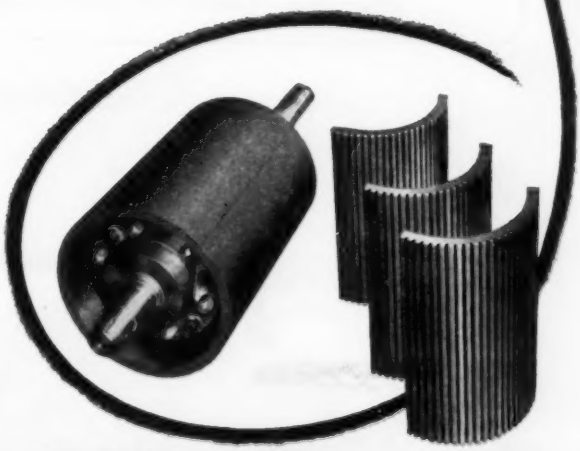
Save Many Hours of Lost Production and Reduce Your Maintenance Costs

Here's How They Work . . .

Simply loosen 6 clamp screws (like removing a wheel from your car) and the dove-tail clamps release the CLAM SHELLS in 3 easy-to-handle sections.

By this means you can easily change from smooth to corrugated rolls, or vice versa—to suit your lumber feeding conditions.

This also solves the problem of feeding icy lumber. When winter comes you can change quickly to corrugated Clam Shells—without disturbing planer-roll-shafts, bearings, gears or sprockets.



CLAM SHELL Quick Change Rolls are Another STETSON-ROSS "FIRST"—more evidence of leadership in the planer matcher field—since 1907.

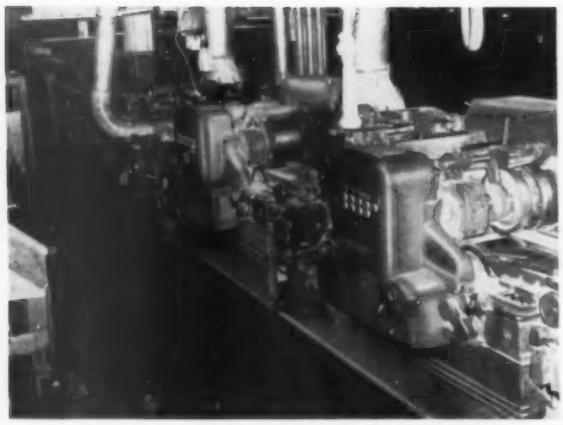
CLAM SHELL rolls are available for Stetson-Ross Planer models 6-10-A1, 6-12-A1, 6-12-MA1, 6-12-CI, and the 202.

Your inquiry is invited.
No obligation, of course.

STETSON-ROSS MACHINE COMPANY INC
SEATTLE 4, WASHINGTON

Copyright, 1955 Stetson-Ross Machine Co., Inc.

Export Division, 301 Clay Street, San Francisco 11, California



SECOND S. A. Woods blanker-planer combination recently installed by J. Neils Lumber Company, Klickitat, Wash.

J. Neils Installs Second Blanker-Planer Unit

• The J. Neils Lumber Co., Klickitat, Washington, is now installing its second S. A. Woods blanker-planer combination in the plant planing mill. Choosing a second S. A. Woods combination was the result of the successful operation of the first unit (see THE LUMBERMAN, Sept. 1955), which has proved itself superior in materially reducing down-grading through roller-splitting.

The first blanker-planer combination (S. A. Woods 469M blanker and 409M planer) has given a third more production per day; provided better millwork with less tearing around knots and cross grain due to larger diameter of cylinders (11¼-in. cutting circle), giving a higher rim speed for knives and a lower angle of incidence at the moment of contacting the surface of the board; reduce sniping; and damaging the knots.

The new 469MI Blanker-409M Planer combination is 25" wide, and the blanker has 14-knife heads, while the planer has 16-knife heads. The wide blanker has solid top feed rolls. It will presurface or blank to a uniform thickness the shop lumber and other heavy stock that is put through this wide unit; so that, when the lumber enters the planer and matcher, a superior planing job can be done. The large knots in pine shop do not shrink as much in the drying process as the wood itself.

The wide blanker will presurface the knots and the wood to a uniform thickness, so that the lumber will lie flat on the planer and matcher bed when the final cuts are taken. It is believed that the J. Neils Lumber Co. will be the first pine mill in the industry to blank or presurface shop and other heavy lumber and then do the final planing, all in one operation.

Use of the S. A. Woods Blanker in combination with the planer has reduced the frequency of splitting to about 2 per cent. C Grade lumber downgraded to D Grade because of roller-splitting, amounts to a loss of income of $45 per thousand feet of lumber downgraded in the processing.

• Demand for seedling trees to reforest Tennessee's woodlands has shown a tremendous jump in the past five years—from 4,500,000 to 22,890,000. According to state forester CARL PETERSON, the state had a hard time disposing of a million of its 4.5 million seedlings in 1951. By next fall there will be 30 million available and Tennessee expects takers for all of them. One of the big planters of seedlings is Bowaters Southern Paper Corp. which planted 6.5 million trees last year. TVA also planted some 6 million.

BLUE BABE Products
NORTHWEST MARINE IRON WORKS PORTLAND OREGON

BLUE BABE
VENEER CLIPPERS
will save you labor and speed production
SEE YOUR DEALER OR WRITE DIRECT

NORTHWEST MARINE IRON WORKS
DESIGNERS OF SAWMILL AND LOGGING EQUIPMENT
2516 N.W. 29th AVE. Industrial Division PORTLAND, OREGON

FOUR MODELS...FOR EVERY LOG AND PULPWOOD HANDLING JOB

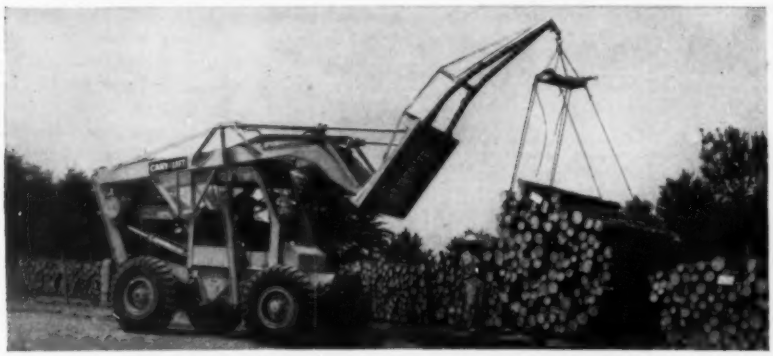
...USE THE ALL-PURPOSE LOADER THAT CUTS COSTS

Whatever your log and pulpwood handling jobs are, there's a Pettibone Cary-Lift model that will do them faster and easier. Powerful 4 wheel drive, 2 or 4 wheel steering, lifting capacities up to 14,000 pounds and an exclusive reaching feature make the Cary-Lift the most powerful and versatile machine you can own. Let experienced Pettibone engineers show you how you can save time and money with the Cary-Lift—the all-purpose loader that is specifically engineered for every conceivable log and pulpwood handling job. Ask for a demonstration today.

FORK CARY-LIFT

SWIVEL CLAM CARY-LIFT

SLING CARY-LIFT

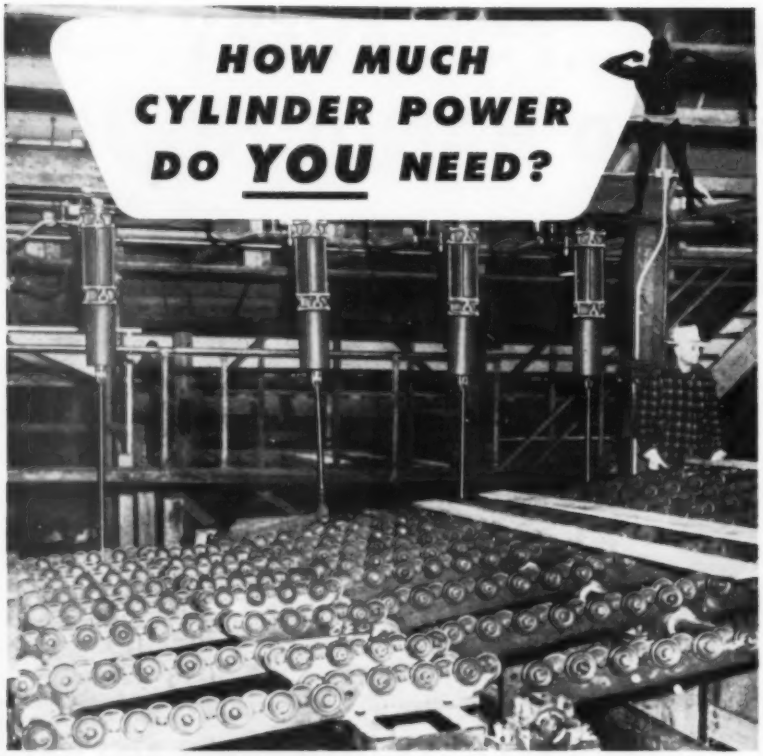


SUPER SLING CARY-LIFT WITH 16 FT. 2 IN. REACH

Only CARY-LIFT Has This Exclusive Feature

PETTIBONE CARY-LIFT

Write for Bulletin P 185
PETTIBONE MULLIKEN CORP.
4700 W. Division Street
Chicago 51, Ill. • SPaulding 2-9300



Ledeen CYLINDERS operate bridging sections of lumber separator

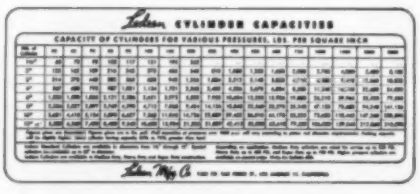
Illustration shows lumber separator and grading table in Oregon sawmill. Bridging sections on the separators are actuated by 4" Ledeen Air-Operated Heavy Duty Cylinders, shown suspended from cross beam at far end of separator.

Ledeen Cylinders give long, dependable and low maintenance service. That's why they are being specified more and more for many applications in the timber industry.

Standard cylinders available from stock in 1½" through 12" bores. Special cylinders up to 20". These cylinders offer a wide range of capacities to meet your power requirements.

HOW MUCH CYLINDER POWER DO YOU NEED?

Send for this cylinder capacity chart. It will help you determine the size Ledeen Cylinder you need to meet your power requirements.


Ledeen CYLINDER CAPACITIES
CAPACITY OF CYLINDERS FOR VARIOUS PRESSURES, LBS. PER SQUARE INCH

Write for Bulletin 500

Ledeen Mfg. Co.
1604 San Pedro St.
Los Angeles 15, Cal.

VALVES • CYLINDERS
VALVE ACTUATORS
AIR-HYDRAULIC PUMPS
AND BOOSTERS

Safety Record Good

• On April 30 the Franklin River logging camp of MacMillan & Bloedel on the Alberni Canal established a new B. C. record for the number of man-hours (115,000) without an accident under the American Standard system.

The American Standard system classifies as an accident anything that prevents a man returning to his next regular shift, whereas the Workmen's Compensation Board records are on the basis of compensible accidents and are not listed until the man fails to return to his fourth shift.

MacMillan & Bloedel stresses safety throughout its operations. The company's logging camps made a clean sweep of the Workmen's Compensation Board safety awards for 1955 in every class for which they were eligible.

The safety week program at Canadian White Pine Division incorporated some home safety reminders as well as mill precautions. Each employee received a sticker "Is your child in the clear?" along with a note from Ed McDonald, manager, asking that the sticker be placed on the inside back wall of the garage as a constant reminder to make sure the driveway was clear of children before backing out.

In its house organ MacMillan & Bloedel publishes the safety record of all its operations to inject a competitive element in maintaining the best possible showing.

They Log Farthest North

(Continued from page 103)

roads. Columbia Cellulose Co. will probably drive part of the Nass River eventually, when its logging operations extend that far north. When the Forbisher Co.'s dam is built it is expected that provision will be made for the passage of logs downstream.

The Nass River taps a major part of the company's license area, and its eventual use for log transportation can be a vital factor in the economic development of that territory, since wood from the central and upper portions of the Aiyansh block must be transported for distances of from 50 to 100 miles to tidewater. The Nass has already been examined for towing and log driving.

Last year, as a part of the survey a river tug reached Grease Harbor, some 40 miles from tidewater, for the first time. The Nass is driveable from the north end of the license area to Grease Harbor, a distance of 75 miles, and thence towable to tidewater.

Logging contractors in Washington timber forests supply the Cascade sawmills according to radio schedules. Remote log camp crews use G-E 2-way radio to keep abreast of mill production needs, handle emergencies, and to coordinate operations.

RADIO ties sawmills to logging camps

Cascade Lumber Co., Yakima, Wash., relies on G-E 2-way radio to coordinate work of 5 logging contractors, maintain sawmill log inventories.

Five Pacific-Northwest logging companies direct their logging trucks to sawmills by G-E 2-way radio. The loggers, under contract to Cascade Lumber Co., feed timber to the various mills according to production requirements. The result: loggers keep abreast of mill output—sawmills handle a steady flow of lumber.

Two base stations originate Cascade's radio signals to supervisory vehicles and contractors' equipment. With radio, Cascade has instant contact with contract loggers operating within a 100-mile radius of the headquarters sawmills.

Radio is vitally important to the lumber industry. It serves as a fire warning system, helps speed needed parts to remote crews. Two-way radio aids traffic control over narrow trails, is ready for any emergency.

The new Progress Line of 2-way radio equipment offers G.E.'s exclusive Plug-In Chassis. All chassis are interchangeable. The new Progress Line transmitter, receiver, and power supply may be switched between sets *. . . instantly.*

2-WAY MOBILE RADIO

See your G-E Communications Counselor for the complete details or, write: *General Electric Company, Communication Equipment, Section X2386, Electronics Park, Syracuse, New York.*

Progress Is Our Most Important Product

GENERAL ELECTRIC

STANDARD OF THE INDUSTRY SINCE 1936

Luber-finer

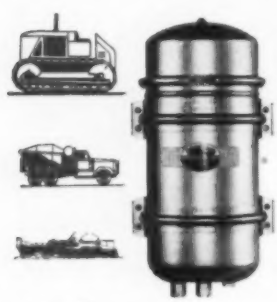
FOR EVERY TYPE OF ENGINE EVERY TYPE OF OIL

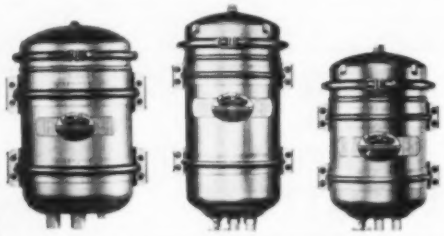
STANDARD and OPTIONAL EQUIPMENT ON LEADING DIESEL TRUCKS TRACTORS & STATIONARY ENGINES

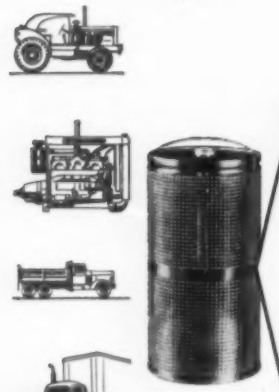
Only a Luber-finer Filter Unit with a genuine Luber-finer Pack produces the patented filtering process that gives engineered protection to engine and oil as recommended by equipment manufacturers. The vital oil supply is circulated through Luber-finer's exclusive specially processed media which removes not only the injurious suspended solids from the oil but also the colloidal impurities which are often more damaging, thus increasing the life of both engine and oil. *The Efficiency of Luber-Finer's Patented Process has never been equalled!*

Luber-finer's patented filtering process adds thousands of miles to engine and oil life—cleaning—filtering—and returning the oil to the engine with the excellent lubricating qualities as specified by the manufacturers of today's modern high powered engines. Every minute—every mile your engine is run it must be protected.

Remember, there's a Luber-finer model especially designed for your type of engine or oil.







DON'T BE MISLED! ONLY GENUINE LUBER-FINER PACKS GIVE EXCLUSIVE ENGINEERED PROTECTION

DIESELPAK — Designed for use with H.D. detergent compounded oils. May also be used with fuel oils and straight mineral oil. Removes impurities and contaminants—without affecting the additives.

REFINING PACK—Designed for use with straight mineral oils, fuel oils, hydraulic oils and inhibited industrial oils.

The Refining Pack, which combines ABsorbent with ADsorbent filtration, removes acids, moisture, suspended particles and colloidal impurities during its effective life more efficiently than any other filter.

WRITE FOR COMPLETE INFORMATION DEPT. 30

LUBER-FINER, INC. 2514 S. Grand Ave., Los Angeles 7, Calif.

Log & Lumber Prices

Columbia River Log Prices

Douglas Fir Peelers: No. 1 $124-129; No. 2 $110-115; No. 3 $82-87.
Douglas Fir Sawlogs: No. 2 $57-62; No. 3 $45-50.
Hemlock: Peelable $65-70; No. 1 $55-60; No. 2 $45-50; No. 3 $38-43.
White Fir: Peelable $68-73; No. 1 $63-68; No. 2 $50-55; No. 3 $38-43.
Noble Fir: Peelable $53-58; No. 1 $43-48; No. 2 $40-45; No. 3 $35-40.
Cedar: No. 1 $98-103; No. 2 $44-49; No. 3 $37-42.
Spruce: Select $95-100; No. 1 $80-85; No. 2 $60-65; No. 3 $43-48.
White Pine: average* $53.50.

Grays Harbor Log Prices

Douglas Fir Peelers: No. 1 $107-112; No. 2 $98-103; No. 3 $80-85.
Douglas Fir Sawlogs: No. 1 $60-65; No. 2 $56-61; No. 3 $43-48.
Hemlock: Peelable $55-60; No. 1 $50-55; No. 2 $40-45; No. 3 $38-43.
Cedar: No. 1 $97-102; No. 2 $50-55; No. 3 $36-41.
Spruce: Select: $87-92; No. 1 $63-68; No. 2 $45-50; No. 3 $41-46.
White Pine: average* $52.50.

Puget Sound Log Prices

Douglas Fir Peelers: No. 1 $110-115; No. 2 $102-107; No. 3 $85-90.
Douglas Fir Sawlogs: No. 1 $63-68, No. 2 $58-63; No. 3 $47-52.
Hemlock: Peelable $55-60; No. 1 $52-57; No. 2 $43-48; No. 3 $42-47.
Cedar: No. 1 $108-113; No. 2 $62-67; No. 3 $38-43.
Spruce: Select: $90-95; No. 1 $63-68; No. 2 $42-47; No. 3 $38-43.
White Pine: average* $56.50.

British Columbia Log Market

Reported by C. D. Schultz & Co., Ltd., Vancouver, B. C., consulting foresters and engineers.
(Log prices are per thousand feet board measure)

FIR—Log stocks increasing, demand heavy. Price range now $55.00 to $65.00 for #3's, $65.00 to $75.00 for #2's and $75.00 to $85.00 for #1's. Peeler price range $85.00 to $95.00 for #3's, $95.00 to $105.00 for #2's and $105.00 to 115.00 for #1's.

CEDAR—Log stocks gradually increasing, demand constant. Price range $42.50 to $52.50 for #3's, $55.00 to $65.00 for #2's and $75.00 to $85.00 for #1's. Lumber cedar price range $70.00 to $80.00 for #2's and $80.00 to $90.00 for #1's. Tie cedar price range $42.50 to $52.50.

HEMLOCK & BALSAM—Log stocks increasing slowly, demand continues heavy. Price range $42.50 to $52.50 for #3's, $50.00 to $60.00 for #2's, and $57.50 to $67.50 for #1's. Balsam price range $40.00 to $50.00 with sorted lumber balsam $50.00 to $55.00.

• Douglas Fir Lumber Prices

1x8 #3 or S KD	$ 67- 70.00
2x4 #1 Dimension S4S KD	94- 96.00
1x4 C&Btr VG Flooring KD	170-175.00
1x6 C&Btr Drop Siding KD	158-163.00
1x6 C&Btr S4S KD	170-175.00
1x8 C&Btr S4S KD	170-175.00
1x10 C&Btr S4S KD	175-180.00
1x12 C&Btr S4S KD	215-220.00

#1 Timbers and Plank

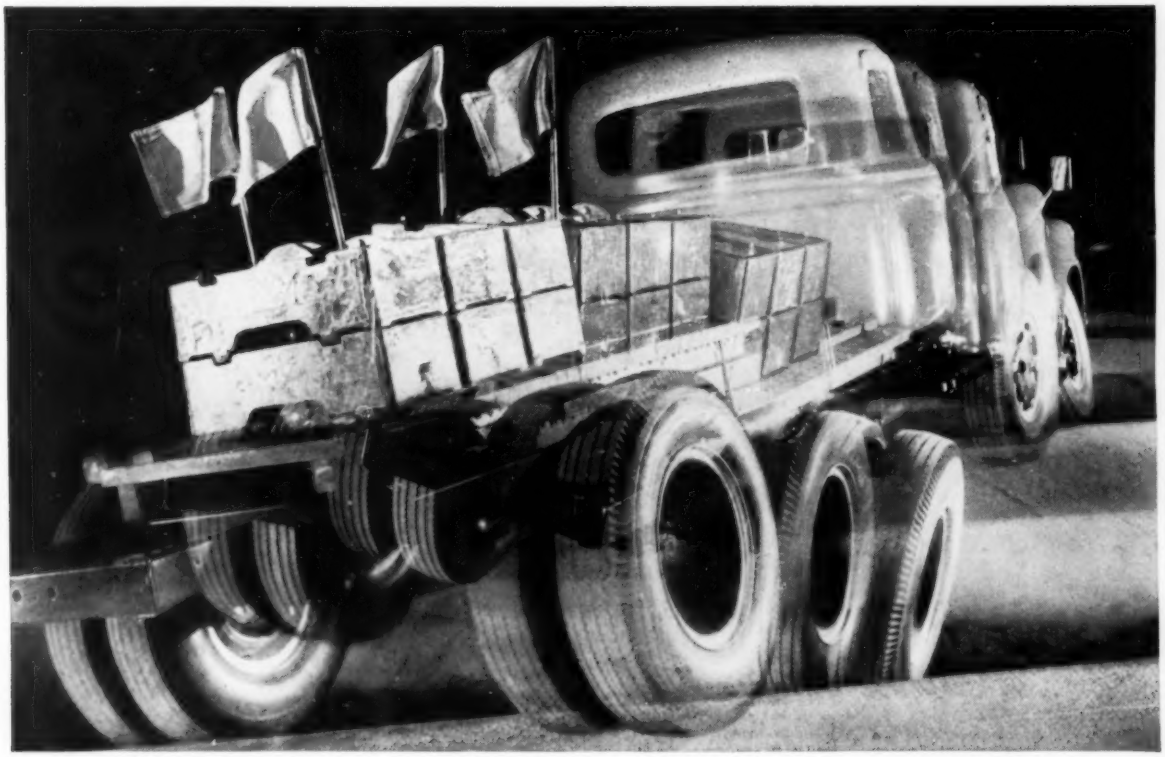
3x12 6-20'	$ 94- 97.00
3x12 22-24'	99-102.00
3x12 26-32'	107-112.00
4x4 6-20'	95- 98.00
4x4 22-24'	101-103.00
4x4 26x32'	108-113.00
6x6 8-20'	94- 97.00
6x6 23-30'	99-102.00
6x6 32-40'	114-117.00
8x8 8-20'	92- 95.00
8x8 22-30'	97-100.00
8x8 32x40'	112-115.00
6x10, 8x10, 10x10, 12x12, 8-23'	92- 95.00
6x10, 8x10, 10x10, 12x12, 22-30'	97-100.00
6x10, 8x10, 10x10, 12x12, 32x40'	112-115.00
Douglas Fir Cross Ties	72- 75.00

#1 Dimension (Green)

2x4 6-24'	$ 83- 86.00
2x6 6-24'	84- 87.00
2x8 6-24'	83- 86.00
2x12 6-24'	84- 87.00

#2 & Btr. Boards (Green)

1x4 6-20'	$ 57- 60.00
1x8 6-20'	75- 78.00
1x12 6-20'	75- 78.00



3-foot ditches! 8 per trip! Trip after trip! This "Twist Test" on our proving ground really puts a truck through the wringer. It wrenches engine mountings, frame, springs, cab alternately in opposite directions—puts a strain on every part to check for maximum endurance. If new designs or parts are going to fail, they'll fail right here. Torture like this on the test track saves you the BIG money on the job.

They take a beating on the test track

to save you the BIG money on the job

All-time logging and lumbering favorites—INTERNATIONAL Trucks. Models for every operation, 4- and 6-wheel units, conventional and COE design, numerous all-wheel-drive models. World's most complete line. 4,200-90,000 lbs. GVW.

A truck that can stand up to this punishment is *all* truck. It's a truck that can take a real beating, and still stay on the job *dependably*.

Of the five leading makes, only INTERNATIONAL offers a complete line of trucks that are designed and built specifically for truck work. There are no passenger car compromises.

This means any INTERNATIONAL you buy will keep going on jobs that are just too much for many other trucks. And it will keep going longer, to earn its keep in profits—earn it in lower operating and maintenance cost. That saves you the *BIG* money.

With all their money-saving extra value, you get attractive functional styling—extra roomy, comfortable driver-saving cabs—every modern feature for top performance, easiest driving. See your INTERNATIONAL Dealer or Branch for the *right* truck for you.

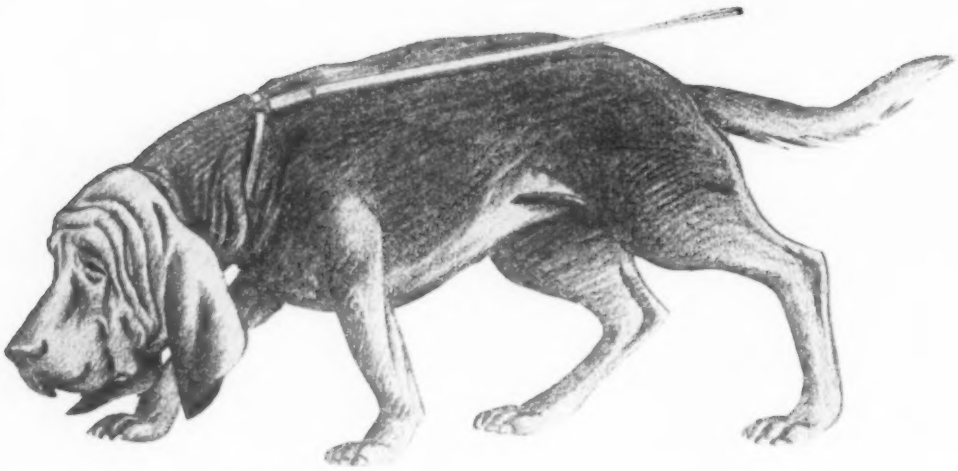
INTERNATIONAL HARVESTER COMPANY • CHICAGO

INTERNATIONAL® TRUCKS

All-Truck Built to save you the BIG money!

Motor Trucks • Crawler Tractors • Construction Equipment
McCormick® Farm Equipment and Farmall® Tractors

MANHUNT!



"Manhunt". . . . . in a single word you have the description of THE LUMBERMAN'S circulation sales program. "Manhunt" describes exactly our organized search for *all* key men in the forest industries who buy or influence the purchase of machinery, supplies and services.

These are: (1) men who sit behind desks planning production and sifting out new developments and techniques; (2) top executives and presidents who make final management decisions; (3) mill managers who come face-to-face with men and machines and are directly responsible for better manufacturing processes; (4) the logging manager in his pickup truck 100 miles from his home office; (5) the logging boss supervising a yarding and loading setup 75 miles from the mill site; (6) the small mill operator 50 miles from the nearest postoffice, whose production multiplied thousands of times, adds significantly to the industry total.

The forest industries is *widely scattered*. You have to follow the trees to find the men. So THE LUMBERMAN has a well-trained, skillfully directed field sales organization that beats the bushes . . . . goes far beyond any direct mail list . . . . and penetrates beyond the front office to locate, identify, qualify and sell the men who are significant readers . . . . the men on their way up.

This person-to-person contact, both in the field and by mail—is a powerful reason why advertising gets action in THE LUMBERMAN. Its circulation lives and grows with the dynamic forest industries.

THE **Lumberman**

mf A MILLER FREEMAN PUBLICATION

71 COLUMBIA STREET, SEATTLE 4, WASHINGTON

SAN FRANCISCO • CHICAGO • NEW YORK • LOS ANGELES

NEW ORLEANS • ATLANTA • PORTLAND

VANCOUVER,B.C. • SEATTLE

Log & Lumber Prices

• Douglas Fir Plywood

5/16" AD Int. basis.....$80/M sq. ft.

• Red Cedar (industry standard) Shingles

No. 1	24"	4/2	$16.00
No. 2	24"	4/2	9.50- 10.50
No. 3	24"	4/2	5.00
Perfections			
No. 1	18"	5/2¼	12.50
No. 2	18"	5/2¼	7.00
No. 3	18"	5/2¼	4.00
XXXXX			
No. 1	16"	5/2	11.00
No. 2	16"	5/2	6.00
No. 3	16"	5/2	4.50

• Southern Pine Prices (KD Stock)

Vertical Grain Flooring			BB	C	D
1x4 Heart			250.00	235.00	200.00
Flat Grain Flooring					
1x4			160.00	150.00	120.00
1x6			175.00	165.00	125.00
Drop Siding					
1x6 #106			191.00	170.00	130.00
#116			191.00	170.00	130.00
Boards & Shiplap		1x6	1x8	1x10	1x12
#1		130.00	127.00	127.00	180.00
#2		81.00	88.00	85.00	98.00
#3		72.00	80.00	76.00	74.00
#1 Dimension					
	12	14	16	18	20
2x4	100.00	100.00	102.00	118.00	123.00
2x6	98.00	101.00	99.00	115.00	120.00
2x8	99.00	96.00	96.00	115.00	120.00
2x10	108.00	105.00	107.00	120.00	135.00
2x12	130.00	122.00	120.00	145.00	150.00
#2 Dimension					
2x4	94.00	94.00	98.00	107.00	112.00
2x6	88.00	92.00	90.00	100.00	105.00
2x8	89.00	87.00	87.00	97.00	105.00
2x10	92.00	94.00	92.00	105.00	109.00
2x12	95.00	95.00	95.00	115.00	120.00
#3 Dimension					
2x4	76.00	76.00	80.00	86.00	91.00
2x6	73.00	74.00	74.00	80.00	85.00
2x8	75.00	75.00	73.00	75.00	80.00
2x10	71.00	76.00	71.00	76.00	81.00
2x12	70.00	70.00	70.00	77.00	82.00

• Western Pine Prices

The following F.O.B. mill prices, based on Past Sales, were reported to the WESTERN PINE ASSOCIATION by members during the period 7/2 to 7/14/'56 inclusive. Both direct and wholesale sales are included and are based on specified items only. They are for dry surfaced lumber.

PONDEROSA PINE

	4/4RW	5/4RW	6/4RW
SELECTS S2 or 4S			
C Select RL	$264.63	$271.54	$267.01
D Select RL	218.12	226.82	222.34
SHOP S2S	No. 1	No. 2	
5/4	141.44	110.29	
8/4	141.17	110.06	
COMMONS S2 or 4S	No. 2	No. 3	
1 x 8" RL	110.00	80.95	
1 x 12" RL	120.68	82.86	
4/4 No. 4 Common S2 or 4S	64.79		

IDAHO WHITE PINE

	4/4RW	6/4RW
SELECTS S2 or 4S		
Choice (C) RL	$275.38	$305.00
Quality (D) RL	210.62	265.92

COMMONS S2 or 4S	Colonial (#1)	Sterling (#2)	Stand. (#3)
1 x 8" RL		153.29	105.89
1 x 12" RL		163.86	107.02
4/4 UTILITY (#4) S2 or 4S RW&L	69.47		

SUGAR PINE

	4/4RW	5/4RW	6/4RW
SELECTS S2 or 4S			
#1 & 2 Clear RL	$286.35	$296.00	$293.64
C Select RL	268.38	280.99	283.75
D Select RL	238.67	241.57	245.88
SHOP S2S	No. 1	No. 2	No. 3
5/4	147.04	112.27	77.72
6/4	149.57	111.59	78.03
8/4	164.71	123.33	77.05

LARCH-DOUGLAS FIR

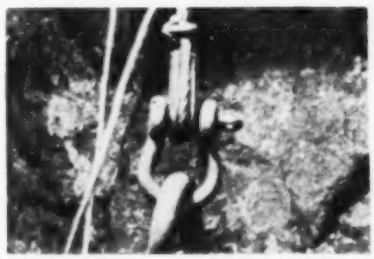
4/4 No. 3 Common S2 or 4S	$ 75.22
2 x 4 No. 1 Dimension RW&L	91.37
2 x 4 No. 2&Btr. Dimension RW&L	79.70

LOGGERS RELY ON CROSBY CLIPS

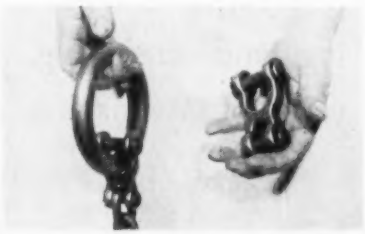
Miles of wire rope working as sky lines, haulback lines, chokers, tractor arch lines and crane rigging are vitally important to the logging industry. Equally important are the wire rope fittings that give the rope its great adaptability to every job in the forest and at the mill. A basic fitting is the famous Crosby* Clip that secures wire rope with unequalled gripping power! You won't have to look far to find the genuine "Red U-Bolt"*—it's manufactured from high quality steel with drop forged base in sizes to fit every rope from ⅛" to 3" in diameter. Leading distributors everywhere carry this popular clip!

*Registered Trademark

VERSATILE FITTING



Most adaptable wire rope fitting is the shackle—its use in hundreds of different ways subjects it to a variety of twists and shock loads. As a result, the safety factor of Laughlin Shackles isn't taken for granted. They're safety engineered! Pin holes are jig drilled in the drop forged bow. The extra heavy pin resists shearing forces. Made in complete selection of sizes from 3/16" to 3".



DOUBLE CLEVIS LINKS SAVE TIME IN FIELD

Loggers using chain, find that Laughlin Double Clevis Links make possible quick, safe coupling of chains to fittings right out in the field. Time consuming welding or blacksmithing isn't required because the heat treated double clevis link will securely connect ¼" to ½" standard or alloy chains to rings, end link and sling links, eye hooks, tractor eye bolts and other fittings.

Stocked and sold by leading distributors everywhere

CROSBY-LAUGHLIN *Division*

American Hoist and Derrick Company

FORT WAYNE 1, INDIANA

SPEAR & JACKSON

Band Saws

Spear & Jackson Bandsaws can be counted on to perform with the best. Into them go the finest steel obtainable and a quality of workmanship in welding, swaging, grinding, and tensioning, gained from years of sawmaking experience.

Spear & Jackson Bandsaws are custom-made to your exact specifications at our factory in Eugene, Oregon. Large and small operators alike are satisfied users.

SPEAR & JACKSON

EUGENE, OREGON

BAND, GANG, CIRCULAR SAWS, TEETH and HOLDERS

"The Saw Without A Flaw"

ARE YOU BY-PASSING PROFITS in your PATCHING DEPT.?

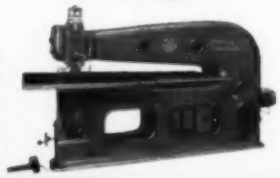
ARE YOU DOWN-GRADING FOR LACK OF PATCHING EQUIPMENT

Remember
IT COSTS YOU THE SAME AMOUNT TO BRING VENEER UP TO THE PATCHING DEPT. AS TO BY-PASS IT

After the dryers, are you willing to lose up to $10 a thousand *THROUGH DIVERSION OF STOCK TO LOWER HARDER-TO-SELL GRADES?*

AT ONLY A COST OF 85c A THOUSAND you can put in those money-making

RAIMANN
VENEER PATCHES



Save also through *less* defect trimming by your Green Veneer Clipper. Write for *other* savings possible!

E. V. PRENTICE CO., LTD.
5936 Fraser Street
Vancouver 15, B. C.
Phone Elgin 5212

E. V. PRENTICE CO.
2303 N. RANDOLPH ST. • PORTLAND 12, OREGON

Promoted at M&M

New general sales mgr., M&M Wood Working Co., is HAROLD E. PETERSON, former asst. to Robt. N. Kelly, who resigned the manager's post July 1. He joined M&M's Portland home office sales force in 1954.

New Owners Activate Green Veneer Plant At Packwood, Wash.,

• The modern new Pac-Ply green veneer mill with a production capacity of 65,000 sq. ft. (⅜" basis) has begun operation at Packwood, Wash., in eastern Lewis county.

The plant was completed in 1955 and run by its former owners on an interrupted basis until this past winter, when it shut down completely due to shortage of logs. Recently nine new stockholders purchased the plant. The Packwood Lumber Co. organization holds the controlling interest in Pac-Ply. Principals include Uno Ostrom, Larry Ostrom and Lloyd Gladston.

Fifteen men will be employed on a one shift basis; a second shift may be started later. Green veneer will be sold to plywood plants on the open market. The mill is all-electric and is reported to have all modern equipment.

Pac-Ply's log pond is located but a few hundred feet from the Packwood Lumber pond, and the management is considering linking the two ponds to obtain better log utilization.

G-P Acquisition of Coos Bay Lumber Co. Is Major Result of Sale of Dant & Russell Assets by Blyth

• When Blyth & Co., investment house, exercised its option to purchase all of the stock of Dant & Russell, Inc., the result was (1) acquisition of Coos Bay Lumber Co. by Georgia-Pacific Corp.; (2) formation of a new company, Dant & Warnock, Inc.; and (3) taking over of Dant & Russell's steamship interests by Jack R. Dant.

In the Coos Bay transaction, Blyth bought all of Dant & Russell's stock in the Coos Bay Lumber Co., which amounted to over 45% of the total. Blyth obtained another 35% of Coos Bay stock from various other interests. In turn, Georgia-Pacific Corp. paid some $70 million for all the Coos Bay assets, consisting of 120,000 acres of timberland in western Oregon containing over 4 billion bd. ft. of timber, mostly old-growth Douglas fir, and plywood, hardboard and sawmill plants and other facilities. With other purchases in recent years, the addition of Coos Bay timber places G-P right near the top in the backlog of merchantable timber.

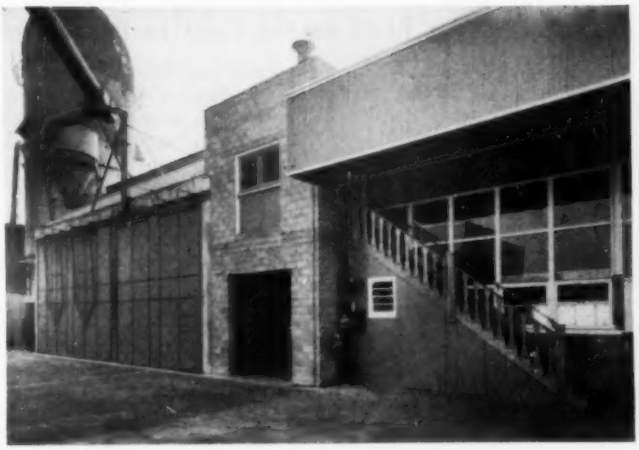
Two former D&R executives, Vice President Robert Dant and Eastern Sales Manager D. M. Warnock, obtained from Blyth various sawmills and other former D&R assets in the Pacific Northwest. They have a former manufacturing and wholesaling company known as Dant & Warnock, Inc. They will sell the output of certain non-company mills on an exclusive basis. They plan to specialize in lumber, mouldings and millwork cut from western pines and the associated species. In the new firm, Dant is chairman, and Warnock is president and general manager.

Jack R. Dant is to receive 100% of stock in States and Pacific Atlantic Steamship Companies, under a contractual arrangement with Blyth.

UNIT PACKAGES AND SIDE LOADING KILNS ARE IDEAL WHEN SPACE IS RESTRICTED!

Side loading Moore Cross-Circulation Kilns are built in any length to meet the needs of large or small manufacturers.

The 2 new Moore Cross-Circulation side loading kilns at Penberthy Lumber Company, Los Angeles, California, are illustrated at the right. Both kilns are 26 feet deep; one is 20 feet wide and the other 28 feet. Automatic low pressure gas-fired boiler is housed at side of kiln and control room overhead.



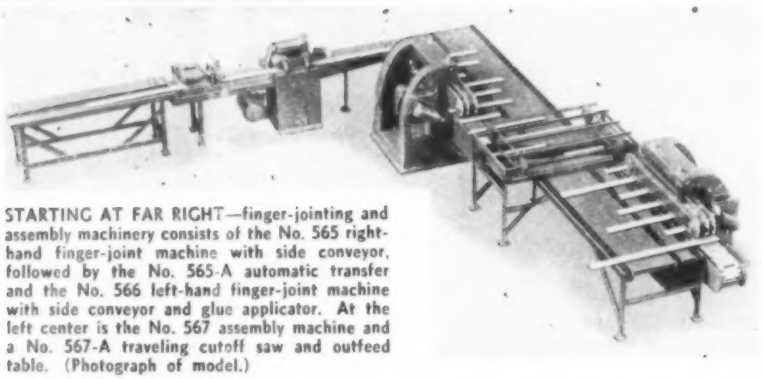
Take advantage of modern kiln drying facilities. Let us show you how the Moore System can be installed at your plant in kiln buildings of side loading or conventional end loading design. There is a Moore Cross-Circulation Kiln designed to suit your conditions and requirements.

Let us help you solve your drying and lumber handling problems in the most practical way. Write us today.

MOORE DRY KILN COMPANY

Oldest and Largest Manufacturers of Dry Kilns and Veneer Dryers

JACKSONVILLE FLORIDA · BRAMPTON, ONT. CANADA · VANCOUVER, B. C. CANADA · NORTH PORTLAND OREGON



STARTING AT FAR RIGHT—finger-jointing and assembly machinery consists of the No. 565 right-hand finger-joint machine with side conveyor, followed by the No. 565-A automatic transfer and the No. 566 left-hand finger-joint machine with side conveyor and glue applicator. At the left center is the No. 567 assembly machine and a No. 567-A traveling cutoff saw and outfeed table. (Photograph of model.)

Matched Machines Cut Cost of Salvage, Upgrade

• Greenlee Bros. & Co., has developed a new and unusual group of closely coordinated finger-jointing and assembly machines. This machinery will be of special interest wherever lumber is used as a basic material because it turns potential waste and low-grade stock into profit through salvaging and ungrading.

The high-speed, variable feed rate of up to 90 fpm, will allow all of the many advantages of the finger-jointing process to be fully realized. A wide range of sizes can be handled with stock up to 2" thick, up to 6" wide, and down to a 6" minimum length. Finger joints of either the straight or angle type can be produced by simply and easily changing the cutting heads and adjusting the cut-off and scoring saws.

An unusual arrangement of feed chains and hold-downs feed the work for accurate cutting in both the right and left-hand machines. Stock is automatically transferred from the first machine into the second machine by a diagonal feed belt and overhead pusher bars.

Glue is automatically applied following the cutting of the joint by the second machine. The stock is then run through an assembly machine, which produces a tight joint, by varying the speed of the assembly chain units. At this point the stock can proceed through a high-frequency curing unit. A traveling cut-off saw, which can be set to cut the stock at any predetermined length, and an outfeed kick-off table, completes the Greenlee finger-jointing equipment.

How the D9 Was Field-tested Prior to Production

• The big new D9 tractor was the drawing card at a recent Trade Press Conference held by Caterpillar at Peoria, Ill. THE LUMBERMAN was on hand to veiw the D9 in field demonstrations and to hear "Cat" personnel describe its background.

Of special interest to the logging industry are the remarks of Assistant Director of Research Karl L. Mason, who told how the D9X Experimental models were rigorously field-tested before the final D9 was put into production.

"Twelve pre-production tractors, which we called D9X, were made, ten being placed in the hands of users, and two retained at our proving grounds. Just about every significant combination we could think of was represented here—some were direct drive machines, some had torque converters; some had 6-roller track frames, some had 7; some had disc sprockets, some had spoke type sprockets, and so on. The ten in the field were moved from one job to another, being placed in just every application which we thought might tell us something else. Bulldozing, push-loading, deep-plowing, pioneering; we covered them all, from Maine to California, and from the Canadian border to the Gulf. A field engineer followed each one, carefully examining and analyzing each thing which happened to the machine.

"These engineers communicated with Engineering and Research by phone, sometimes daily, and followed up with a thorough written report. Picking a few conclusions from one report, we read 'The ground speeds provided in the six-speed transmission were not entirely satisfactory.' (The engineer was referring to use in a deep-plowing application in Texas.) That was valuable information we could never have obtained in laboratory or proving grounds; we profited from it and made improvements. D9X Tractors in the field accumulated a total of 23,409 hours of operation.

Orr & Sembower Offers "Package-unit" Dryalator

• Orr & Sembower, Inc., Reading, Pa., manufacturer of packaged automatic boilers, has entered into an agreement with Lumber Dryalators, Inc., Boston, to manufacture and sell a self-contained lumber drying unit called the Dryalator on an exclusive world-wide basis.

Through closely controlled and regulated heat output, the Dryalator makes possible high speed lumber drying at optimum efficiency.

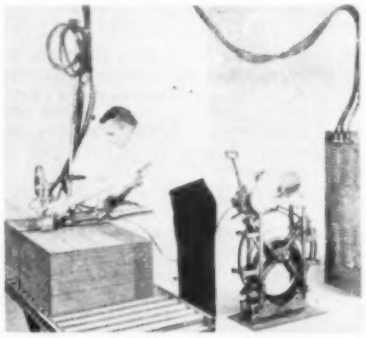
Orr & Sembower will produce the Dryalator in its existing Reading plant facilities. The new Dryalator Division plans to ship its first Orr & Sembower-manufactured units August 15. E. Russell Greenhood, inventor of the Dryalator, is associated with Orr & Sembower.

In placing the Dryalator on the market, Orr & Sembower will utilize its long experience in producing and selling packaged heat exchange equipment. The Dryalator will be marketed through sales representatives throughout the country, who now distribute the company's Powermaster packaged automatic boilers.

The Dryalator, a "packaged" unit, is delivered to the user completely assembled, ready to hook up to required services. It will be fully tested operationally as a single unit—hydrostatically and electrically—prior to shipment.

Orr & Sembower has produced and marketed heat exchange equipment for industry since 1885 and has been a leader in the development of the modern packaged automatic boiler.

★ ★ ★



New Heavy-Duty Flat Strapper

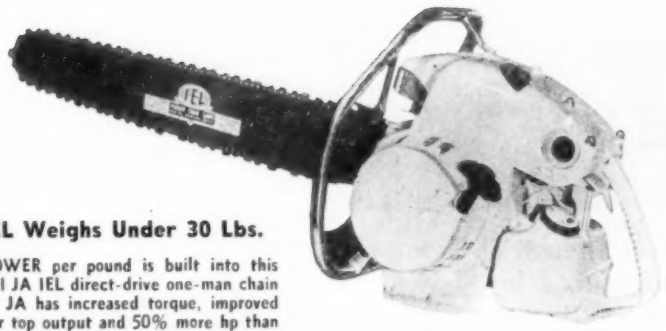
A NEW HYDRAULIC-powered, heavy-duty flat steel strapping combination sealer and stretcher with a built in waste cut off shear has been developed by Gerrard Steel Strapping Division of U. S. Steel. This unit can be used for tying lumber, using ¾" and 1¼" USS Gerrard heavy duty flat steel strapping. The Model number is 56-57.

Western Tractor Adds New Lines of Equipment

• Western Tractor & Equipment Co. President Harry Fay, Sr., Seattle, announces the taking over of many lines of major equipment for logging and construction. The company, established in 1928, is one of the oldest and largest firms in the construction and logging equipment distribution field in area. Associated with Fay, Sr., in the operation as vice presidents are his two sons, Jack Fay and Harry Fay, Jr. (Shorty).

Lines added by Western Tractor for representation in western Washington include: LeTourneau-Westinghouse logging and earthmoving equipment; Adams (LeTourneau-Westinghouse) graders; Schield Bantam shovels, hoes, cranes; Essick rollers, pumps, asphalt spreaders; Universal crushing equipment; Pettibone-Mulliken loaders, buckets, Cary-Lifts; Haiss bucket loaders; American road equipment; D & M Machinery Works tractor rollers.

Western Tractor's up-to-date plant covers nearly a full block in the south end industrial area of Seattle, at 745 Lucile Street, and carries full lines of parts and service facilities. The firm also maintains branches at Anchorage and Fairbanks, Alaska.



New IEL Weighs Under 30 Lbs.

MORE POWER per pound is built into this new Model JA IEL direct-drive one-man chain saw. The JA has increased torque, improved porting for top output and 50% more hp than the IEL Model HM. It is sealed against sawdust, and moisture and has a "silent flow" deflected exhaust and sawdust backstream. It has a built-in air filter. Controls are grouped for one-hand operation. Bar lengths are 20, 26, 32, 40 and 50"; helper handle is available for the three longer bars.

★ ★ ★

Cummins Dealer Moves

• Cummins Diesel Sales of Oregon recently moved into a new sales and service plant at 2259 N. W. Vaughn St., Portland. They have 126,000 sq. ft. of floor and service space and one of the largest, most modern shops for diesel repair service in the northwest. Robert Wills is president and manager. The firm serves Oregon and part of Washington and Idaho.

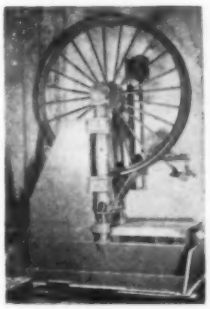
Safety Tires on Market

• Portland, Ore., is one of five major marketing areas in the U. S. where Goodyear Tire & Rubber Co.'s new captive-air safety tires will be available to buyers.

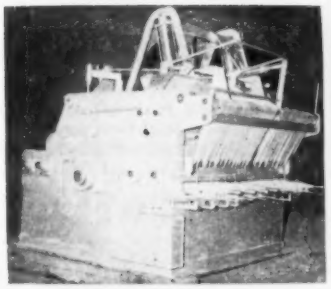
This new safety tire has a nylon 4-ply outer casing and an inner-tire of 2-ply nylon fabric sealed in rubber which provides a safety margin against blowouts. Woolach Bros., 341 S. W. 10th in Portland has the tires available for inspection.

SALEM EQUIPMENT MEETS ALL SAWILL NEEDS

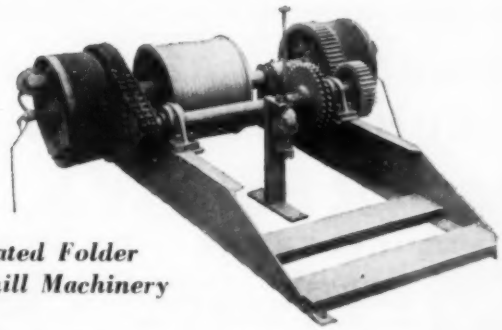
From a Single Machine To a Complete Sawmill



SALEM Band Mill



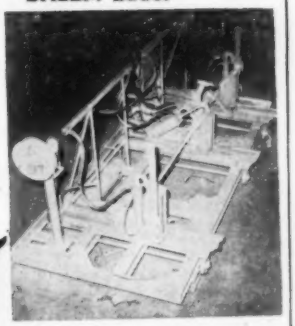
SALEM Edger



SALEM Feed Works

Write for Illustrated Folder on All Types Sawmill Machinery

SALEM Air Cylinders



SALEM Carriage

Salem Equipment & Supply Co.

Earl R. Hitchman, Pres.

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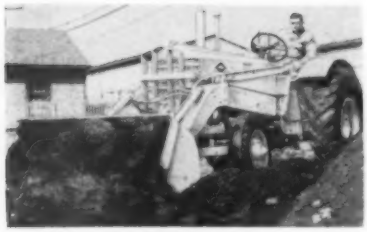

New Industrial Tractors Introduced by M-H-F

• A full line of light and medium-duty utility tractors, the M-H-F "Work Bulls," and allied equipment has been introduced by the new Industrial Division of Massey-Harris-Ferguson Inc., Racine, Wis., famous for its agricultural machinery.

The new line consists of five tractors plus allied attachments. Mid-Western Industries, makers of the "Davis" line of front and rear-end attachments for industrial tractors, is producing a special line of equipment for the "Work Bulls," consisting of 20 hydraulically controlled attachments for digging, loading, lifting, dozing, trenching, grading, materials handling and mowing.

The Model 404 (above), biggest tractor in the line, is adaptable to the heavier-duty jobs. Delivering 52 hp with its 277 cu. in., high-torque engine, the 404 handles the bigger buckets, loaders and hoes. In addition to hydraulic control of both tractor and attachments, it features a five-speed transmission, gear-driven differential, heavy-duty front axle and support, worm and sector steering (power steering optional), heavy-duty clutch, full-pressure lubrication and a 12-volt electrical system. Diesel engine and power take-off are available as optional equipment. Transmission offers five speeds forward and reverse.

Hoe Buys Jones & Orth

• Jones & Orth Cutter Head Co., Seattle, has been sold to R. Hoe & Co., manufacturers of saws and other lines of industrial equipment and machinery. The Seattle firm, with a branch in Memphis, Tenn., makes cutterheads and machines knives for use in the lumber industry.

Nicholson Installs Both Big and Little Barkers

• Several deliveries of mechanical Rotobarkers are reported by T. W. Nicholson, pres., Nicholson Mfg. Co., Auburn, Wash.

The first of the new 72-inch barkers will be installed at W. A. Woodard Lumber Co., Cottage Grove, Ore., and the second at Stimson Lumber Co., Forest Grove, Ore., barking logs for the new Stimson veneer mill as well as for the sawmill. These new barkers are reportedly the largest mechanical barkers now in operation.

The first small type mechanical barker, a 26-inch Rotobarker, is soon going into the Edisto Lumber Co., Walterboro, S. C.

Nicholson has been named dealer for the Hosmer slab debarker, manufactured by Hosmer Machine & Lbr. Co., Contoocook, N. H. The first such unit sold by Nicholson is operating at Stebco, Inc., Vancouver, Wash., which operates a 70M/day gang mill and sells chips to Columbia River Paper mills, Vancouver. Kingsley Lbr. Co., Portland, Ore., and Longview Fibre Co., Longview, Wash., are also installing Hosmer debarkers.

Another Portalloy First

FORGED STEEL CAMEL BACK CHAIN

--Like all Portalloy chains, longer life at no additional cost

FEATURING

SOLID SIDEBAR FOR MAXIMUM WEAR

ask for details about this chain. and all Portalloy standard chains . . . also rubber covered Camel back

PORTLAND CHAIN MANUFACTURING CO.

IN THE HEART OF THE LOGGING INDUSTRY

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Cost Cutting Production Boosters

GUNDERSON BROS.

RESAWS

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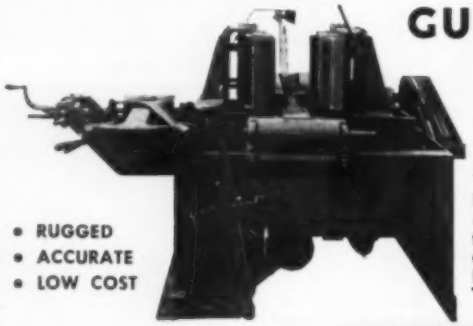

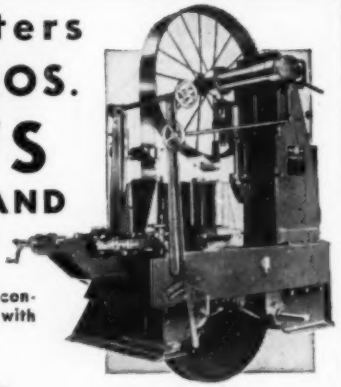

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You can pay more . . . but you can't buy better! Gunderson Resaws are designed for Western Mill conditions by men who know the changing conditions and requirements by working with lumbermen.

Designed by Gunderson Bros. especially for timber salvage. Recovers profitable board feet from every log . . . up to 250 lineal feet per minute. Gauge & Bevel Sawing, Center Splitting. Accurate at any setting.

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- Gauge & Bevel Sawing Center Splitting
- Instant Setting
- All-steel Pressure Bar Feed Table & Feed Rolls
- Or with Tilt Table & Quadrant Set Works

The Marvelous Montgomery

BLO-HOG

Patents Pending

(The only all-purpose hog in the world)

Eats Up Everything!

C.I.T. Terms Available

. . . including Pine, Oak, Gum, Hickory, Elm, Cedar, Wet Veneer and Sandy Bark. Conveyor-fed — no attendant required. Positively protected from major damage by tramp steel. All connections locked — nothing to shake loose. Maintenance costs unbelievably low.

". . . Dear Mr. Montgomery: It is an unbelievable machine and it is still hard to believe that it is actually handling the enormous volume of scrap we are feeding into it. We operate the hog without an attendant — which means a considerable saving." — J. B. BLACK, Ocala Mfg. Co., Ocala, Fla.

Sumner Iron Works, Everett, Washington, W. Coast Rep.
Canadian Sumner Iron Works, Ltd., Vancouver, B. C. Canadian Rep.

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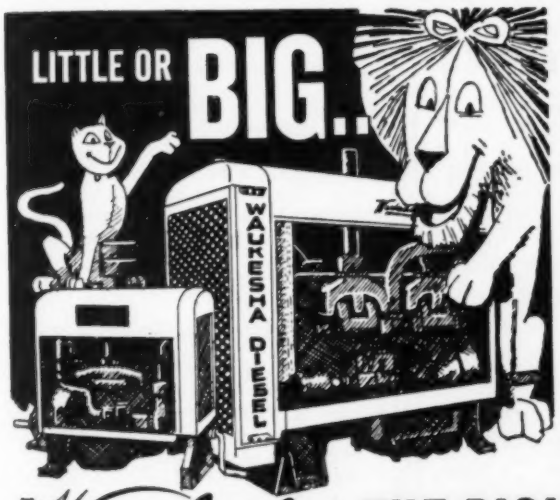

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Almost any size engine for almost any kind of job. Gasoline, LPG and Diesel engines and power plants with ratings from 5 to 500 horsepower, available now!

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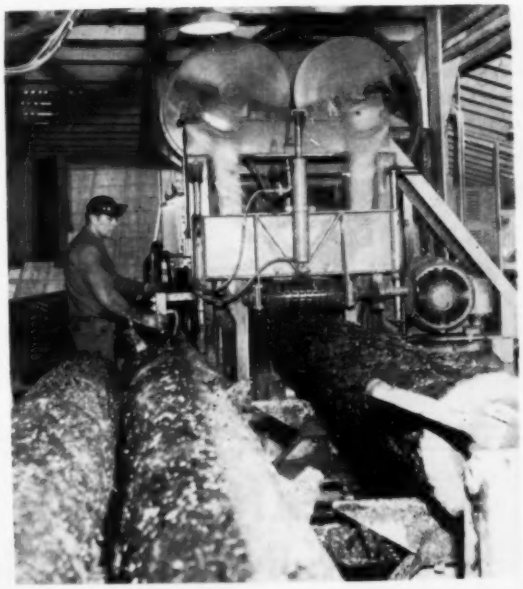
SPEED THEIR SMALL LOG PRODUCTION with SUPERIOR GANG SAWMILLS



SUPERIOR GANG MILL

IS YOUR SOLUTION AS A CANT OR LOG GANG

- **Balanced Single Sash**
- **No Slides to Adjust**
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- **Anti-Friction Bearings**
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- **Electric or Hydraulic Feed**
- **Portable**

Announcing new California dealer

Pacific Woodworking Machinery Company, 2929 Fifth Street, Berkeley, California

Also for Seattle, Spokane, Missoula areas, Air-Mac, Inc.
SEE OR WRITE THEM

Write for Completely Illustrated Circular and List of Users

WESTERN STEEL & SUPPLY CO.

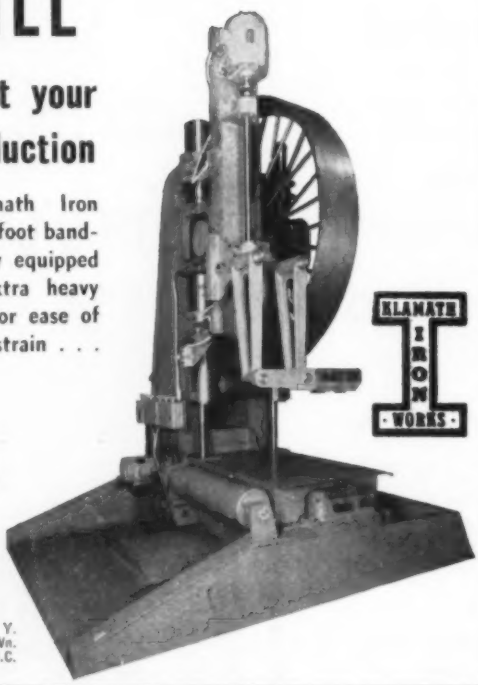
DISTRIBUTORS

DALLAS, OREGON *Mayfair 3-3831*

The Klamath Iron Works BANDMILL

Designed to Boost your better lumber production

Shown here is the Klamath Iron Works Pacific Coast type, 8-foot bandmill. This unit is completely equipped with electric lifts . . . extra heavy construction . . . designed for ease of installation . . . knife-edge strain . . . roller bearing arbors.



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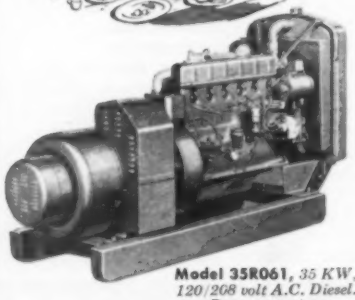
KOHLER Electric Plants

Heavy-duty, independent power for logging camps



Model 35R061, *35 KW, 120/208 volt A.C. Diesel. Remote starting.*

Kohler 35 KW Diesel generator set will provide electricity for all work camp needs—outdoor and indoor lighting, construction equipment, workshop power tools, communications, refrigeration. Reliable, all-weather, heavy-duty service . . . Also available are 10 and 15 KW Diesel models, and gasoline models from 500 watts to 35 KW. Write for folder P-13.

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Established 1873

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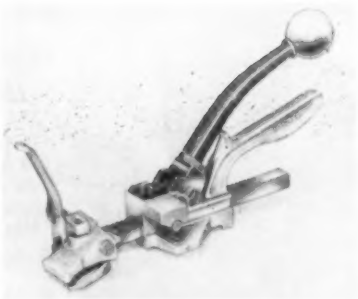

Lighter Strapping Tools

• Two new steel strapping tools, the Stanley "Jet," a pneumatic strapper, and the HDX heavy-duty, hand tightener have been introduced for use in production line strap application by The Stanley Works.

The new HDX tightener (above) replaces Stanley's TXN tool in speeding the tightening of heavy duty strap on narrow surfaced bundles. The new tightener, lighter by more than two pounds than the old TXN,

The HDX utilizes a new pusher-type, "duck-bill" head which has a single screw adjustment for ¾ to 1¼ inch strapping of various gauges. Strapping is snapped off at seal by the duck-bill head when the tool is pushed forward and down.

The "Jet" weighs 4 lbs., features pre-set tensioning less air pressure, unlimited strap take-up, two handy throttles, and a quiet motor with a built-in muffler that reduces whistling.

The pneumatic tool fits comfortably in the operator's hand, and its featured start-stop throttle controls, one each on the side and top, are within easy finger-tip reach. Strapping from ⅜ to ¾ inch, .020 gauge, can be tightened to a predetermined and uniform tension by simply setting the air pressure regulator.

Correction on June Article

• **THE HYDRAULIC "POWER-PAK"** story on page 150 of the June issue of THE LUMBERMAN carried an incomplete paragraph. The last four lines of the first column in the story should have followed directly after the fourth line of the lead paragraph, so that it would read:

"There has been a definite trend toward consolidation of fluid power pumps, valves and accessories for complete press systems on reservoid bases instead of mounting the valves on the presses or hanging them in the piping. This is often the case on hot plate presses; especially foreign made presses shipped to this country without hydraulic equipment."

Also, in the reference to the pump, in paragraph four, the delivery is 25,000 "cfpm" and not "cifm" as shown.

Another Mill to Serve You

Mount Shasta Pine Manufacturing Co.
has now become the
Mt. Shasta Division of the
RALPH L. SMITH LUMBER CO.

Their High Elevation Sugar Pine, Ponderosa Pine and High Quality Shasta Fir, added to our Wildwood and Anderson Production, places us in a splendid position to expand our Mixed Car Service to you.

OUR COMBINED ANNUAL PRODUCTION 150 MILLION BOARD FEET

The Ralph L. **SMITH** Lumber Company

Mills at Anderson, Red Bluff, Castella, Wildwood, and Mt. Shasta, California

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We're specialists at...

PLANNING • FABRICATING • INSTALLING

DUST CONTROL SYSTEMS

(new or redesigned) FOR PLYWOOD PLANTS planing mills, etc.

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New HQ for Aikins Tractor Handy for Flying Loggers

• Aikins Tractor Co. of Eureka, Calif., has just opened a new branch (above) at Ukiah, to serve the area from Garberville (about 75 miles north of Ukiah) south to the bay area, including Sonoma county.

The building is across the highway from the Ukiah airport, just south of town, ideally accessible for loggers who own and fly their own airplanes.

Aikins Tractor has grown steadily since its beginning in Eureka in 1950, when it established in a small building on W. Fifth Street and a few months later moved to the present location at 2016 Broadway. There were only five employees in the beginning and now there are 43 people on the payroll.

Pres. Ed Aikins, known for his long association with the Tractor Division of Allis-Chalmers, spent more than 10 years with the company in Portland and in Milwaukee, Wis., where he was service manager for the industrial tractor end of the business during the last war. Later he traveled Alaska and British Columbia for two years and then joined forces with the late Roy Wood in Portland and worked as a salesman for Wood Tractor Co.

His elder son, Stanley, graduated from Oregon State College '50 and spent three years with General Electric in Richland, Wash., as design engineer, later joining the Aikins Tractor as a salesman, his current position.

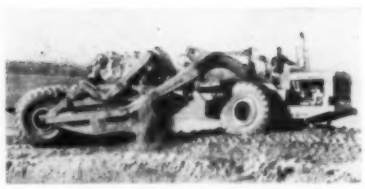
The younger son, Warren, is a mechanical engineer with the pulp division of Weyerhaeuser Timber Co. at Longview, Wash.

Bill Morgan Resigns

• E. S. ("Bill") Morgan has resigned as Portland, Ore., district manager for U. S. Tire & Rubber Co. to open up his own business at West Kelso, Wash. He will become a partner in Keller's Tire Shop there, merchandising the U. S. line.

Morgan has been with the company for 18 years in the major Pacific Coast cities. He is a former captain of U. of Oregon football team and played pro ball for three years with the N. Y. Giants.

Succeeding Morgan at Portland is W. D. ("Doug") Ralston, assistant manager of the San Francisco district for U. S. He has previously been truck tire representative in both San Francisco and Seattle.



More Loads Per Day

• Allis Chalmers is introducing its new TS-260 motor scraper a 200 hp unit weighing approximately 39,600 lbs. and powered by a 6-cylinder Allis-Chalmers diesel engine. Heaped capacity is 14. cu. yd.

A hydraulic pump, gear driven from the rear of the engine crankshaft, provides positive drive and assures constant live power for steering and scraper operation. The curved bottom and three piece cutting edge with offset center edge gives faster penetration and better loading with "live" action. Positive forward ejection plus high apron lift provides fast clean spreading. All these combine to speed up the earth-moving cycle for more loads per day and more profitable operations.

Accurate distribution of weight provides maximum traction, flotation and tire life. When empty, 66% of the entire weight is carried on the tractor wheels and the remaining 34% by the scraper wheels. When loaded, each tire supports an equal amount of weight.

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Many New Models of Tractors, Scrapers, Trucks Give International Widest Range Ever of Heavy Equipment

• A large new array of fast and powerful construction and logging machinery was introduced recently at a big "open house" and demonstration at the International Harvester Co., Dundee, Illinois. Representatives of THE LUMBERMAN were on hand at the three-day affair, which included a tour of the tractor works at Chicago and the Melrose Park plant.

During a 5-year expansion program, IH has begun manufacture of 4-wheel scrapers, self-propelled scrapers, off-highway trucks, self-propelled dump wagon, five IH Drott Skid Shovels and the new rear-engine Payloader. In addition, the subsidiary Frank G. Hough Co. produces six rubber-tired rear-engine, front-end loaders. IH also makes 228 different attachments for its equipment.

TD-18 CRAWLER TRACTOR—Among the major features in the TD-18 (182 Series) (above, right) is increased horsepower. Its rugged 6-cylinder diesel engine now gives 103 drawbar hp, moving it up into the big tractor class. The new stronger transmission provides easy speed selection and a simple, direct line of power. Final drives are designed for heavy, rough and tumble work and positive sealing keeps out abrasives while retaining lubricant.

The engine clutch driven member is now made of ceramic material and fused, powdered metal. The cerametalic engine clutch facings reduce hand lever pull up to 50 per cent over conventional type clutches and provide heat resistance and durability never before available.

TD-14 142 SERIES CRAWLER—A new diesel engine with increased hp to 78.5—a 12½% boost—is one of the major design features. The transmission and final drive have been strengthened to handle the extra power. It also has the cerametallic engine clutch facings. The new 4-cylinder engine features hardened, replaceable cylinder sleeves, full-flow oil filtration and conduction cooled aluminum alloy pistons.

OFF-HIGHWAY PAYHAULERS—Newly added are two new off-highway rear-dump trucks—the 18 and 24-ton (above left) International Payhaulers with a high horsepower to payload weight ratio. They have stronger main frames for longer life, reduced maintenance cost, higher speeds, full power hoists and better visibility. The two models of Payhaulers are the result of testing in the field on 44 different field applications.

B. C. Mills Installing Hansel Barker, Chippers

• Hansel Engineering Co. of Vancouver, B. C., and Seattle, is keeping pace with the trend towards increased barking and chipping capacity in British Columbia lumber and pulp mills, and several significant orders have recently been placed.

Flavelle Cedar, Ltd., recently acquired by Canadian Collieries, Ltd., in a multi-million-dollar deal, has decided to install a Hansel six-knife 48-inch horizontal feed chipper with combination spout to handle mill waste. Announcement that the Flavelle company planned to spend $100,000 on a chipping plant was made by President Norman Whittall.

The Flavelle installation will be similar to two Hansel chippers going in at Elk Falls Co., Duncan Bay, Vancouver Island, where Crown Zellerbach Canada is engaged in a $30,000,000 expansion project, including construction of a sawmill. Unlike the Flavelle machine, the chipper at Elk Falls Co. will have an upward discharge.

Chippers of 48-inch diameter are also being built by Hansel for the Maple Ridge Lumber Co. in the Fraser valley and Norwood Lumber Co. at North Vancouver.

A 112-inch chipper, similar to one built last year for Porlatch Forests, Inc., has been ordered by B. C. Forest Products for its 400-ton bleached kraft sulphate pulp mill to be built at Crofton, east coast of Vancouver Island.

An oscillating-arm Hansel barker similar to those installed at Universal Box Co. and Alaska Pine Co. sawmills is being built for Silvertree Sawmills near New Westminster.

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News of Suppliers

- Promotions
- Appointments
- Plant Expansions
- Mergers & Acquisitions

One Promoted, One Appointed

Irvington Machine Works at Portland, Ore., has promoted BYRON G. LIEBEL (L) from factory field representative to the post of assistant sales manager. He joined Irvington in Feb., '52, and for four years has covered the Oregon and southern Idaho lumber industry. RAY W. LYLE (R), a World War II navy veteran and former salesman, has joined the firm as factory field representative for the same area covered previously by Liebel.

Appointments, Promotions

New sales representative for Leschen in California is **CHUCK SWINDEN,** covering from Sacramento to Tulare and from the East Bay east through Nevada. . . . GE's increased activity in the radio field results in appointment of **GEORGE A. SVITEK** to new post of national service manager for the Communication Equipment Section. His job will be to upgrade service at the hundreds of authorized service stations in the country. . . . **J. F. D. ROHRBACH,** pres., Raybestos-Manhattan, Inc., announces four promotions: **H. H. BURROWS,** 41 years with the company, is new senior vice pres., rubber div.; **R. B. HAZARD,** now vice pres. and sales mgr. for rubber and packings; **S. J. SYNNOTT,** new asst. sales mgr., rubber products; **C. V. VETELL,** mgr., rubber product sales. . . . Vickers, Inc., has chosen an engineer with a wide background, covering many fields and types of products, to be its new director of research and development. He is **DUNCAN GARDINER,** and part of job will be to explore new combinations of electronics and hydraulics. . . . Great Western Chemical Co., Portland, Ore., has added **OWEN P. LAVIN** as head of industrial chemical dept. and **DICK BARTCHY** as head of a new department serving several segments of the forest industries. . . . American Hoist & Derrick has rearranged personnel in the engineering department, with **J. J. HITE** as new director of engineering. Other changes involve **WILLIAM NIESSEN,** chief structural engineer; **KENNETH POTTER,** chief mechanical engineer; **H. T. BRATT,** asst. chief engineer for revolver cranes, derricks and hoists; **A. W. BROWN,** asst. chief engineer for excavators and truck cranes. **R. D. ADKINS** is now mech. engr. of the newly created Crosby-Laughlin Div., manufacturing drop forged fittings for wire rope and chain. . . . Dodge of Mishawaka has promoted **CARL W. PETERSEN** to executive vice president. He was previously vice president and works manager.

In Truck Sales

WILLIAM H. GREEN: former parts salesman for Roberts Motor Co., Portland, Ore., promoted to truck sales division. He joined Roberts in '51 after many years with Bendix-Westinghouse organization

★ ★ ★

Now in Top Spot

RICHARD A. RILEY has been appointed general manager of World Bestos Div. of Firestone Tire & Rubber Co. Riley joined Firestone in 1939 at Fall River, Mass., advancing thru ranks to new post.

Moves to SF

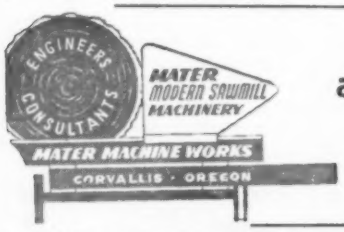
WM. E. McCOY is Caterpillar's new SW Div. sales mgr., succeeding the late Bernard L. Hagglund. He has held many important posts with Caterpillar, including that of eastern div. sales mgr.

★ ★ ★

Dealer & Distributor News

Specialists in rebuilding diesel cylinder heads for loggers and truckers, **NORTHWEST MOTOR WELDING** of Ore., is in new headquarters at 3063 N. Michigan, Portland. . . . **GENERAL PETROLEUM** is spending $6½ million at its Ferndale, Wash., refinery. This is the first major addition to the $40 million plant opened last year. . . . A move to new and larger office space in The Oregonian building for division headquarters of **ARMCO** Drainage & Metal Products, Inc., is announced by D. J. Stoker, Armco North Pacific area manager. On June 18 Armco left its former quarters at the Armco plant on Portland's east side. . . . **CHAPMAN** Chemical Co. has moved its home office into its own building in downtown Memphis at 60 N. Third St. The new Chapman building is of contemporary architecture and houses executive and sales offices. Wood interiors include Philippine mahogany and rift oak paneling. Chapman's research laboratories at the Memphis plant are currently being remodeled and enlarged. . . . Mike Yost, Southern

(Continued on page 39)



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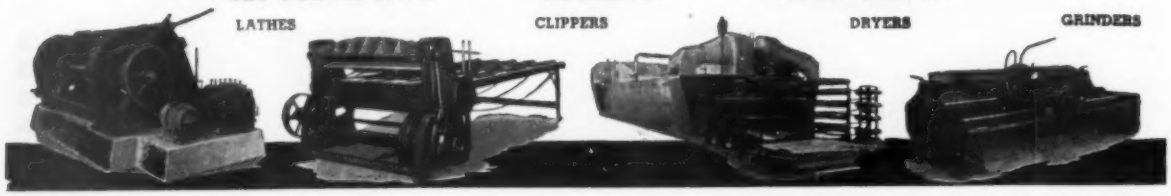

News of Suppliers

(Continued from page 138)

California manager for **CHRYSLER** marine and industrial engines, Los Angeles, announces the appointment of Angeles Engine Sales for industrial engine sales and service. The firm is located at 7608 Roseberry, Huntington Park. E. Bevens is president; W. Gehrkey, vice president and general manager; and Jerry Hinds, service manager.

Willys Picks Portland Site

In a Portland, Ore., suburb, Milwaukie, Willys Motors Inc., of Toledo, O., has set up a temporary zone office at 1935 Washington St. Later in the year, Willys will move into a new 20,000 sq. ft. headquarters building under construction in the Sellwood Gardens area. This facility will serve as the distribution center for Willys vehicles and parts and accessories for Oregon, Wash., N. Idaho and Alaska. Moved up from Dallas, Tex., to become zone manager, is **RAY M. HOEN** (above), a long-time executive in the automotive field. He returns to the Pacific NW where he was divisional sales repr. before his Dallas assignment.

Former personnel remain active in the new firm: **JOHN N. BAIRD**, pres.; **JOE TUM SUDEN**, gen. mgr.; and **C. H. RIDING**, manager of the engine division.

Dealer in New Status

• Utility Trailer Sales Co., Engine Division, 470 Bayshore Blvd., San Francisco, successor to Buda Engine & Equipment Co., Inc., has been appointed dealer for Allis-Chalmers and Buda division engines for northern California.

The new division (pictured above) is in the same location as Buda Engine & Equipment. Art Jackson and Charlie Riding will be contacting customers and prospects. Oscar Jenkins continues to head the service department, and Don Minor the parts department.

The firm is authorized dealer for Allis-Chalmers Buda Division power units, generator sets and marine engines.

IEL Sold for $4.6 Million

• Outboard Marine & Manufacturing Co. of Peterboro, Ont., is reported to have purchasel IEL (Industrial Engineering Ltd.), Vancouver, B. C., for an estimated $4,600,000. The IEL plant, which manufactures power saws, is now moving to a new $500,000 site in Burnaby.

R. A. Pitre, president of IEL and majority stockholder, is one of the original founders, having invested some of the money he made in staking the Privateer gold mine at Zeballos on the west coast of Vancouver Island. In 1946 he bought 200,000 shares of IEL and offered just under half of them to the workers. Machinists, salesmen and office workers bought stock and became eligible for election to the board. The company has successfully grown with the expansion in the power saw industry in the Pacific Northwest.

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OREGON Chipper Chain is the world's most popular saw chain because it can be used on any cutting job, stands up under rough use, and is easy to file right. Original factory equipment for 37 out of 41 American and Canadian chain saws.

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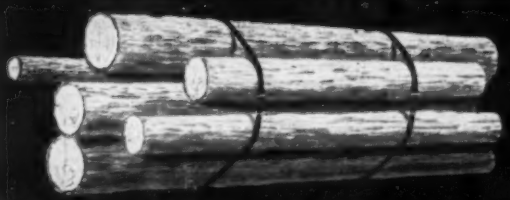

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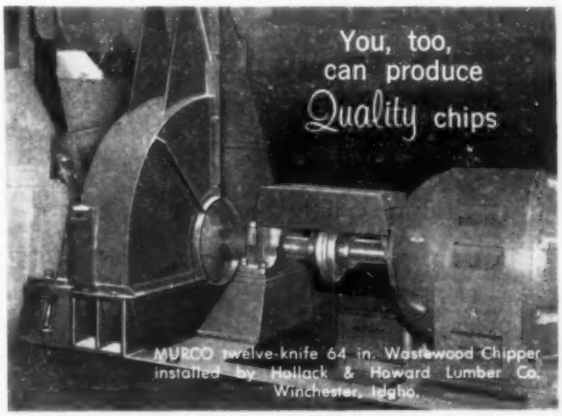
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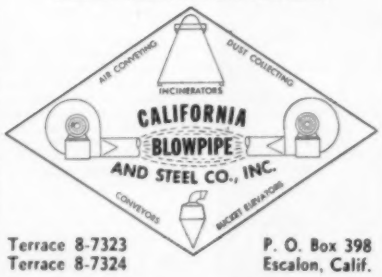

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Sumner Iron Works, Everett, Wash.
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Dodge Manufacturing Co., Mishawaka, Ind., San Francisco, Portland, Seattle
Fafnir Bearing Co., New Britain, Conn.
Link-Belt Co., Seattle, Portland, San Francisco
J. W. Minder Chain & Gear Co., Portland, Los Angeles

BELTING AND PACKING
Gates Rubber Co., Denver
Goodyear Tire & Rubber Co., Akron
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Raybestos-Manhattan, Inc., Passaic, N. J.; Portland, Seattle
U. S. Rubber Co., Mechanical Goods Div., New York

BLOWPIPE SYSTEMS
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Anderson Blowpipe & Mfg. Co., Seattle
Archer Blower & Pipe Co., Portland
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BOOM BOATS
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Gunderson Bros. Engineering, Portland
Nichols Boat Works Co., Hood River, Ore.

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World Bestos, Newcastle, Ind.

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Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Caterpillar Tractor Co., Peoria, Ill.
Howard-Cooper Corp., Portland, Seattle
Pacific Car & Foundry Co., Renton, Wash.

CARRIAGES—Riderless—Automatic
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Filer & Stowell Co., Milwaukee, Wis.
Forest Products Machy. Corp., Salem, Ore.
I. W. Johnson Engineering Co., Tacoma
Mater Machine Works, Corvallis, Ore.
Monarch Forge & Machine Wks., Portland, Ore.
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Sumner Iron Works, Everett, Wash.

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Electric Steel Foundry, Portland
Link-Belt Co., Seattle, Portland, San Francisco

CHAIN—Steel Roller and Malleable
Chain Belt Company and Baldwin-Duckworth Division, Seattle, Portland, San Francisco
Link-Belt Co., Seattle, Portland, San Francisco
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Moline Malleable Iron Co., St. Charles, Ill.; Tacoma, Wash.; Seattle, Portland, Los Angeles
Jeffrey Mfg. Co., Columbus, Ohio
Northwest Chains and Sprockets, Inc., Seattle, Portland
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Radar Pneumatics Engineering Co., Ltd., Vancouver, B. C.

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C. Kirk Hillman Co., Seattle, Wash.
Milwaukee Machinery Co., Portland, Ore.
Skeen Electrical Works, Portland, Ore.

ELECTRIC FEEDWORKS
Skeen Electrical Works, Portland, Ore.
Zidell Machinery & Supply Co., Porland, Ore.

ENGINES—DIESEL
Caterpillar Tractor Co., Peoria, Seattle, Portland, San Francisco
Cummins Engine Co., Columbus, Ind.; Portland, Seattle
General Motors, Detroit, Seattle, Portland, Stockton, San Francisco, Los Angeles
Gunderson Bros. Engineering, Portland, Ore.
International Harvester Co., Chicago, Portland, Seattle, San Francisco
Precision Engineering Co. of Sacramento, Calif.
Waukesha Motor Co., Waukesha, Wisc., Seattle, Portland, Ore., San Francisco, Los Angeles

ENGINES—GAS
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Chrysler Industrial

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Industrial Development Co., Tacoma
Johnson & Johnson, Chicago, Houston Portland
Production Management Engineering Association, Portland, Los Angeles, San Francisco
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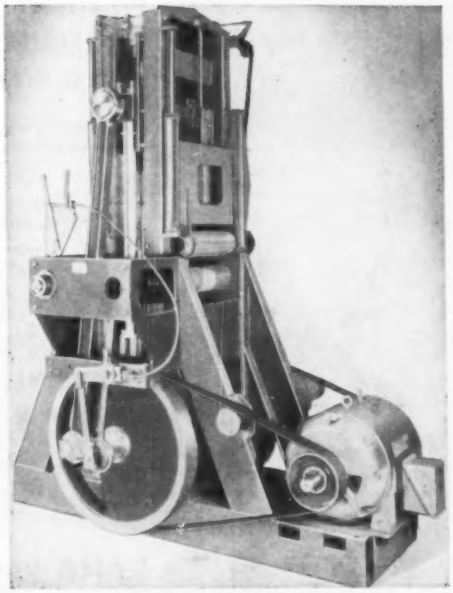
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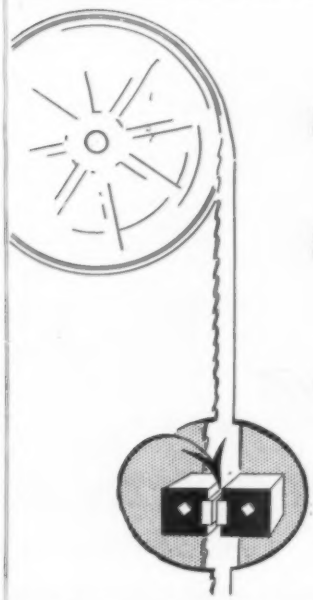

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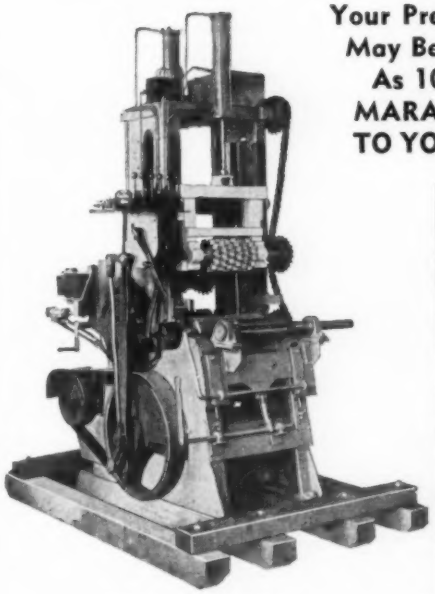

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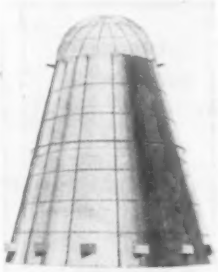
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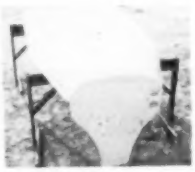

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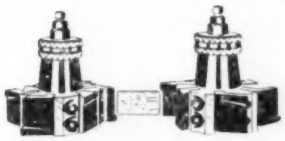

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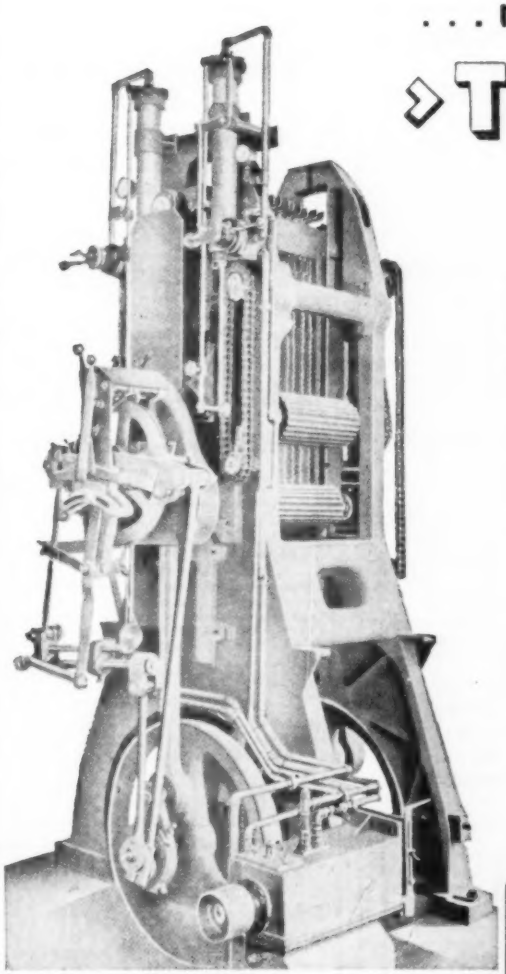

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Mill foreman available. Eighteen years experience. Band or circular. Write TL Box 104, c/o THE LUMBERMAN, 71 Columbia St., Seattle 4, Wash.

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GOOD CONDITION

1 20-ton Keystone, 40' boom.
1 20-ton P & H, 70' boom.
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Veneer Machinery For Sale. Latest Type Coe. Actual use about one year.

106" Lathe Complete with Motors and Starters.
106" Clipper Motorized.
2—25 foot motorized conveyor tables.
110" Automatic Knife Grinder.

Priced to Sell
Located on East Coast,
Available immediately, write:
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CARRIERS

All rebuilt and ready for immediate shipment and for working. Prices drastically reduced for prompt sale. May be purchased on contract or rental sales plan.

1—Ross Series 91-7956, 52 x 67 package
1—Ross Series 90-6544, 52 x 40 package
2—Ross Series 90-6556, 52 x 52 package
1—Ross Model 11 Series 6144, 42 x 48 package
1—Ross Model 11 Series 6044, 42 x 48 package
1—Willamette Hyster Utility, Series 6045, 42 x 48 package
1—Willamette Hyster Utility, Series 5445, 42 x 42 package

PLANERS & MOULDERS

1—S. A. Woods 132 BM 6" 5-head Electric Moulder
1—Woods 131 8", B. D. Moulder
1—Woods 133 10" 4-head, Electric Moulder
1—Yates C4A 4" Moulder, B. D. to individual motors
1—77 American 10" Planer with double profiler
1—Yates #91, 6 x 20" Planer, 6-knife
1—Newman #512 planer, 24 X 6, 8-knife double profile, ball bearing, feed table
1—Newman 4-head 10" roll, all eletric moulder, 12" heads
2—Yates C8S 8" electric moulders
1—American #5 10" ball bearing side head moulder

MISCELLANEOUS

1—Yates 54" twin vertical ball bearing resaw for single and double resawing, large production machine
1—54" Mershon Standard Vertical Resaw
1—54" American Resaw
1—66" Mershon Resaw
1—Rebuilt Yates V-54 54" Resaw, ball bearing
1—#80 American 30" double surfacer
1—G-17 Yates Straight Line Ripsaw
1—Yates F24 Feed table, practically new
1—Mattison Straight Line Cut-off saw, motorized, No. 244
1—Hanchett No. 4G Automatic Gang Saw Sharpener
1—Yates No. 213 Glue Jointer, motorized
1—American No. 112, 6 x 26 Double Surfacer
1—281 Band Ripsaw
1—Yates 283 Resaw, 44" tilt rolls, motor V-belted
1—Peters carriage, 2-block, 54" opening, hydraulic set. Cost approximately $10,000. Practically new, for QUICK SALE—SPECIAL PRICE: $2,500.00
1—48" Edger, all ball bearing
New General Machinery Company 8" roll feed table
New General Machinery Company 6" roll feed table
New General Machinery Circular Rip Saw, motorized, ball bearing
New General Machinery Company Double End Trimmer
New General Machinery Company Knife Balancing Scales

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HEAVY DUTY CARRIAGE

Complete Klamath Iron Works 72 inch 3 block carriage with air dogs, 2 hook dogs, cant flippers, taper on front block and I. W. Johnson No. 4 trout type set works. Just finished complete overhaul and replacement of all 5 sets of trucks. This unit is ideal for large timber.

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FOR SALE

Excellent European Woodworking machines for immediate delivery from Toronto stock or European port to U. S. Very attractive prices duty included, generally saving approximately 30%. Many references and 100's of satisfied customers. Complete Saw Mill equipment, machines for Plywood Manufacturers, Special Woodworking machines for Furniture Makers, etc. Write for information to

TRANS ATLANTIC MACHINERY CO.
115 King St. E. EM-4-5816
Toronto, Ont., Canada

BUYERS GUIDE and CLASSIFIED SECTION

TOP VALUES

SUMNER 12x60" R.H. stub edger w/power shifters, new roller bearing arbor, 4 bottom feed rolls, etc. Latest type like new.

PORTLAND IRON 6"x36" R.H. stub edger, late type. 4 bottom feed rolls; also front and back rolls.

HESSE-ERSTED 8x48" R.H. stub edger w/ roller bearing arbor and new shifters.

HESSE-ERSTED short wood chipper, r.b., 13"x14" opening.

SUMNER #65 hog. Roller bearing, base and drive. Used only 2 weeks from new.

ALLIS-CHALMERS 9-ft. R.H. band mill w/ V drive and 300-hp, 600-rpm 3-brg. motor and controls.

OILGEAR 60-hp carriage feed drive complete.

MOTORS

300-hp, 600-rpm A-C 3-brg. sl. rg.
125-hp, 720-rpm G E. type IK sq. cg.
10-hp, 16-rpm Western D-54 reducer

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LOG GANGS and CANT GANGS

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★ STAR VALUES ★

Planers - Matchers & Moulders

Used 414-M Woods 6"x25" all electric planer-matcher, 10-knife ball bearing, double profiles, feed table.
New M-512 Newman 8"x16" planer-matcher, 8-knife, ball and roller bearing.
New M-510 Newman 6"x14" planer-matcher, 6-knife, ball and roller bearing.
New M-500 Newman 6"x14" planer-matcher, 6-knife, ball and roller bearing.
New M-68 Newman 6"x16" planer-matcher, 6-knife, ball bearing.
New M-48 Newman 6"x16" planer-matcher, 4-knife, ball bearing.
Used 77A American Model 5, 6"x15" planer-matcher, 8-knife & feed table.
Used #94 Berlin, 6"x15" planer-matcher, 6-knife.
Used #107 Woods 6"x15" inside moulder.
Used #134-M Woods 4"x10", 5-head electric moulder.

Filing Room Equipment

New G-232 Newman hydraulic knife grinder.
New G-132 Newman Straight knife grinder.
New G-16 Newman sidehead grinder.
New G-71 Newman sidehead grinder.
Used Hanchett 6" to 14" band saw grinder.

Band and Circular Saw Mills

Used American #1 saw mill, right hand, ball bearing arbor, live roll case.
New American #1 saw mill, right hand.

Band Resaws - Band Rip Saws

Used V-54 Yates 54" vertical band resaw, left hand, anti-friction bearings.
Rebuilt 60" Fay & Egan vertical band resaw, left hand, anti-friction bearings.
Used 44" McDonough vertical band resaw, left hand.

Saw Mill Equipment

Rebuilt #2 PSMD (#45) hog, roller bearing.
New #135 Diamond hog.
New 4½x30" Miner 3-saw gang edger.
New 6"x54" Schurman stub edger.

Woodworking Machines

New #890 G.M. Diehl tapeless veneer splicer.
New #750 G.M. Diehl glue joint straightline ripsaw.
Used #32 Whitney 6"x30" single surfacer, ball bearing, direct motor drive.
Used American 40" band saw, ball bearing.
Used #600 Newman 24"x8" single surfacer, 5 HP, ball bearing.
New S-830 Newman 30"x8" single surfacer, 7½ HP.

Compressors - Stationary

Rebuilt Model ER-1 Ingersoll-Rand 9"x8" water-cooled, 110 CFM.
Used M-25 Worthington air-cooled, 158 CFM.
Rebuilt Ingersoll-Rand 7½ HP, air cooled, 28 CFM.

STAR MACHINERY COMPANY

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BUYERS GUIDE and CLASSIFIED SECTION

USED WOODWORKING MACHINERY FOR SALE

1—Mershon Saw: 16" special Band Timber Edger and Timber Resaw, with 8'-0" extension front table—4" x 44" diameter wheels, 6'-0" x 11'-0" floor space.
1—G.E. motor—20 H.P.—type 1—form K—3 Phase—220 Volts—1200 RPM.
1—Cutler-Hammer size 4 across the line starter—Bulletin #9586.

1—Atlantic Works Timber Bed Planer—24" x 24" with 24" x 32'-0" wooden top sliding bed—one top head.
1—Westinghouse—25 H.P.—type C.S.—3 Phase—220 Volts—1737 RPM.
1—20/25 H.P.—G.E. Compensator—DL2019014-G7-K1-60 cycles—3 Phase.

1—G.E. Alternating Current Frequency Changer Generator—type ATB—8 Pole—Form PK—900/1500 RPM—60/100 cycles—21.4/36 KW—Armature Amperes 69.3—220/375 volts—3 phase, #4315236—IS#350405—31 Stator 40°C continuous—Rotor 50°C continuous. With 1 direct connected exciter—G.E. Direct current generator #257524—Frame 3—Form EB—type EF—12 Amps—125 volts at full load—1.5KW—900/1500 RPM—IS#350043.83.

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Yates-American Machine Co.
Memphis, Tennessee

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1—52" Turner Band Resaw Complete with motor and saws.
1—Covel Hanchett Bandsaw Grinder #407—up to 10" Saws. Equipped with 2 motors.
1—Bridgeport 84" Knife Grinder. Equipped with 7½ H.P. motor.
1—Practically new Acme Gummer. Equipped with motor.
1—Covel Hanchett Automatic Circular Saw Grinder #928. Equipped with motor.
1—New Circular Saw Anvil.
1—#115 Band Saw Grinder Converted to a Gang Saw Grinder.

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All late style and almost new equipment, including Yates-American A62 Ball Bearing Knife Planer; Irvington 24' wheel type trimmer; hollow ground saws; 150 hp blower system; side lift to trimmer; all steel construction; cement floor. Includes all conveyors, chain, gearhead motors, etc. Ready to put into immediate operation.

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1—Two saw circular Headrig, with 200 hp motor and starter.
1—Approx. 60' x 50' Slab Bruner.

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50" C.M.E. Norman Chipper #505 complete with the following:

10 x 10" Spout
1—DN Hanchett 40" grinder with special attachment for grinding four knives per set up.
1—200 HP G.E. slip ring mtr. 600 RPM 3/60/2200 Type 1 form M Serial No. 1775375
1—pulley 33" PD—D sec. 12 groove
1—pulley 22.5 PD—D sec. 12 groove
12—only 195 D sec. V-belts
1—G.E. Drum controller J108C #447553
1—2500 Volt FK G.E. Oil Switch
1—440 Volt FK G.E. Oil Switch
As is, where is—fob. Foster, Oregon — $13,500.00

YARDER

1—Washington 3-drum yarder—size 175—with Hercules Motor and twin disc clutch. Gearing and spools in good condition f.o.b. Foster, Oregon ---- $1,000.00

50" NORMAN CHIPPER

Include 1—50" Norman chipper #503 with 10 x 10 spouts, direct connected and complete with the following:

1—Louis Allis Motor, type OGK, frame No. 137, Class 48, Form G. 150 HP 810 RPM 2200 Volt 3 phase, 60 cycle, 42 amps.
1 Allen Bradley Automatic compensator
1 DN Hanchett Knife grinder 40" with a special attachment for grinding four knives per set up.

Priced at $13,500.00 f.o.b. Dallas, Oregon
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4—3" x 6"	Model E	2—6" x 6"
6—3" x 10"	Model E	2—6" x 10"
2—4" x 4"	Model E	1—5" x 12"
2—4" x 5"	Model E	1—6" x 30"
2—4" x 10"	Model E	1—8" x 8"

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New Worm Reducers at Used Prices

2—1 HP, 58 R.P.M. 220/440V ..... $150.00 ea.
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1—2 HP, 1800 R.P.M. 220/440V $45.00
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1—200 HP, 600 R.P.M. 440V with extended shaft—all on adjustable base $3500.00
1—150 HP, 600 R.P.M. 440V 2900.00
1—15-35 HP, 600-1200 R.P.M. 440V All w/ starters and grids. 950.00
1—20" Champion Back geared motorized Floor Drill 475.00

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30" Sunbo used gang mill, log or cant gang complete with log carriage, cutterhead, log guide, outfeed roll case, motor & many other items.

Large list of used sawmill & plywood plant machinery. Several used electric drives.

Wanted

Used 7' RH or LH bandmill.

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OUR 56th YEAR OF DEPENDABLE SERVICE FOR YOU

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Used 4" x 32" Wheland 3 Saw BB Table Edger
Used 4 x 36 Newport BB Table Edger
Used 10 x 60 Allis LH roller brg. Stub Edger
Used 4 x 42 BB Newport Stub Edger
Used 6 x 48 Fabricated Stub Edger
Used Burton 6 x 42 4 gang Stub Edger
Used 12 x 84 Sumner Edger
Used Heaps 6 x 30 Stub Edger
Used 4" x 32" American 3 saw Stub Edger
Used 3" x 32" Tower 2 saw Table Edger
Used 4" x 30 Enterprise 3 saw Table Edger
Used 12 x 72 Sumner, Split rolls - 200 HP motor

HOGS & CHIPPERS

New Diamond #25 Hog
New Diamond #135 Hog
New Diamond #145 Hog
New Diamond #135 Chipmill
New Diamond #145 Chipmill
Used #40 Diamond Hog
Used #45 Diamond Hog
Used #60 Diamond Hog
Used Williams Hammer Hog 20 x 44 opening
Used #35 Diamond Hog
Used 64" Hesse Evsted Chipper
Used #35 Puget Sound Hog

PLANERS—MOULDERS—SURFACERS

Used #512 Newman 8 knife, double profiles—late
Used #100 Heaps 5" x 15" BB Pony Planer—Like New
2" x 4" Eaglefield electric moulder-frequency changer
Stetson Ross #4 16 x 30 Timber Sizer
Used Berlin #95 6 x 30 6-knife matcher with ripper
Newman #90 6 x 15 6-knife planer-matcher
Used Frank 5 x 24 planer
New 4 x 13 BB Marathon Planer-Matcher
Used American #77 8-knife BB Planer
Used Tilting Lumber Hoist, floor chains
Used S. A. Woods Planer Feed Table
Used #118 Berlin 6 x 15 Planer

RESAWS & RIP SAWS

Used No. '0' American Self feed rip saw
Used 54" Mershon, anti-friction brg. tilt rolls
Used J. A. Fay & Egan 42" Band rip saw
Used 42" Cordesman Band Resaw
American #2 Self-feed circular rip saw
Used 46" #4 Band Scroll resaw
Used Mershon 84" Resaw, sawmill type, quick set
Used 54" Berlin resaw, screw set
Used #2 Faye & Egan 36" BB Circular Resaw
Used 38" Trojan circular resaw BB—17" x 14" capacity
New Schurman linebar circular resaw

MILL EQUIPMENT

New Wheland 1 man 2-saw Trimmer, electric shift
Used 2 arm Log Stop & Loader, 36" arm, 12 x 16 cyl.
Used 3-arm Log Stop & Loader, 32" arm, 12 x 16 cyl.
Used 20' Portland Iron Log Turner
4—Used Gerlinger Carriers 42"
New Willamette Iron Works Swede-rubber rolls
Steel Deck with Flippers
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HEAD RIGS AND CARRIAGES

Monarch 3 block Carriage
New Wheland #36 Portable Mill
Corinth Hydraulic Sawmill, riderless carriage
Portland Iron Works 60" opening headblocks
#4 Trout Set Works for screw block
54" Berlin Pony Band Mill, 7" blades
Sumner Power Set Works for screw block
Sumner Iron Works 3-block R & P 36" opening tapers
54" opening screw type headblocks
3 Sumner 72" opening headblocks
Used 8' Wheland LH Band mill—anti-friction
9' Union Band Mill, roller bearing, RH
Used 6' Union Iron Works band mill
6' Yate Band Mill, all cast, LH

MOTORS

Used—75 HP—2400 RPM SB
Used—2 0 HP—720 RPM Slip ring with controls
New 150 HP 900 RPM Allis-Chalmers BB
New 150 HP 1200 RPM BB Allis-Chalmers
New 100 HP 1200 RPM BB Allis-Chalmers
Used 75 HP 1200 RPM SB GE
Used 25 KVA Westinghouse w/controls
New 750 Watt gas driven Generator
Sawmill type gearmotors and reducers 3 to 10 HP
Large stock of used motors, large and small

ENGINES & BOILERS

Used 671 GMC Deisel
Caterpillar Diesel Engine D8S0
Caterpillar Diesel Engine D13000
New 20 HP Diesel Engine FM
11 x 12 Ames Center Crank 48 x 12 Pulley
62" x 20' 100 HP Code Boiler 195#
54" x 14" HRT ideal for dry kiln
72" x 18" 160 HP Code Boiler 15?#

COMPRESSORS

50 cu ft Used Worthington air cooled
65 cu ft Used Worthington air cooled
65 cu ft New Worthington air cooled
142 cu ft Used Worthington air cooled
160 cu ft Used Ingersol Rand Portable
230 cu ft Ingersoll Rand Portable
411 cu ft Used Ingersoll Rand water cooled
324 cu ft Used Ingersoll Rand water cooled
375 cu ft Used Ingersoll Rand water cooled
700 cu ft Used Worthington air cooled
700 cu ft Used Ingersoll Rand air cooled
750 cu ft Used Chicago Pneumatic, water cooled

NEW AND USED PUMPS

Underwriter approved Firepumps—many sizes
Log Wash units complete with Spray Ring
New 150 Boiler Feed Turbine Pump
New 3x2x3 Worthington Duplex Boiler Feed
Used 12x6x12 Advance Duplex Boiler Feed
Used 6x4x6 Worthington Duplex Boiler Feed
Used Worthington 4" centrifugal—1000 GPM

HOIST AND CRANES

Used 5 ton Hesse Ersted single drum hoist—like new
New 10 ton Schurman dbl. drum hoist
New 5 ton General Utility Beebe Brs. hoist
New Budget Hoists in stock
Used American dbl. drum 24x24 40 HP

MISCELLANEOUS

American Columbia 48" oscillating 3 drum sander
Used Hesse-Ersted 6 HP motorized saw arbor
Used Irvington 60" arm swing saw
Berlin 30" 3 drum sander
Used Morgan box board matcher
Mereen Johnson box board squeezer
Mereen Johnson 20' precision trim & printer
36" Crescent ball bearing band saw

SHOP TOOLS

20x12 Shoemaker Q.C. lathe
Used Oster Pipe & Bolt Threader
5' Mueller Radial Drill
4' American Geared Head Radial Drill
8x16 Racine Hydraulic hack saw
#3 Kempsmith Geared Maximiller

FEED WORKS

Monarch Friction Feed
Wheland 5" Belt Feed
New 5 x 6 SpeeDee Twin Feed
16 x 18 Allis Steam Twin feed self-contained
American 6 x 12 dbl. cyl. single drum feed
Used Peters 16" x 4" drum type feed works

LOG AND CANT GANGS

Marathon #200 Gang saw, 13 x 20, for Cants
Marathon #120 Gang saw, for logs or cants
Used 8 x 32 Wickes Cant Gang
Used 20 x 20 Gang
Linck Gang saw for logs or cants, 22 x 22—In stock
Linck Gang saw for logs or cants, 28 x 28—In stock

FILING ROOM EQUIPMENT

New Armstrong #4 RH handsaw Grinder
New Armstrong #4 Stretcher Roll
New Marathon Gang Saw Grinder
New Armstrong #54 Circular Saw Gummer
Used Armstrong #6 Band Saw Grinder
Used Covel #140 automatic Band Saw Grinder
Used Covel #217 RH Band Saw Grinder
Used Covel #90 LH Band Saw Grinder
Used Covel #83 24" Gang Saw Grinder
Used Covel #110 RH Band Saw Grinder
Used Hanchett #24 36" Automatic Circular Saw Grinder
Used Hanchett #948 Circular Saw Grinder
Used Hanchett #250 LH Band Saw Grinder, motorized
New and Used Levelling Blocks
Used Covel #109 Stretcher Roll 16" capacity
Used #16 Armstrong Automatic Circular Saw Grinder
Used #4 Armstrong Stretcher Roll

KNIFE GRINDERS

Used S. A. Woods motorized sidehead grinder
Used Buffalo 28" cup wheel knife grinder
Used 36" Fay & Egan #253 automatic knife grinder
Used American 30" knife grinder
Used American 32" straight wheel knife grinder
Used Covel GK 38" late type knife grinder
Used BT&B 39" automatic straight wheel hog knife grinder
Used S. A. Woods sidehead and profile jointer stand
New Dependable #99A5 36" motor drive, automatic knife grinder
New Dependable #101A sidehead grinder
New Defiance 38" motorized automatic knife grinder
New Andrus abrasive belt 32" automatic knife grinder
Used Dependable 36" automatic knife grinder

Agents for LUMBER DRYALATORS, INC.—High Speed Dry Kilns. DIAMOND IRON WORKS—Fuel Hogs and Chipmills. SCHURMAN MACHINE WORKS—Edgers, Hoists. BERRY MFG.—Hydraulic Carriage Drives. WORTHINGTON CORPORATION—Compressors, pumps. THE WHELAND CO.—Band Mills, Circular Sawmills, Edgers, Trimmers, Carriages. IRVINGTON—Trim Saws. ARMSTRONG MFG.—Filing Room Equipment. DEPENDABLE—Knife Grinding Equipment and Moulders. ALLIS-CHALMERS MFG.—Motors, Controls, Drives. COMET—Radial Arm Saws. DAVIS & WELLS—Woodworking Machinery. BEGE—Hydraulic Log Turners. P & H—Hoists. BINKS MFG.—Spray Equipment. MARATHON and LINCK GANG MILLS.

THE PORTLAND MACHINERY COMPANY

"When You Think of Machinery, Think of Portland Machinery"

208 S. W. First Avenue **Portland 4, Oregon** **Phone CApitol 8-9633**

The LUMBERMAN'S Advertising Index for August 1956

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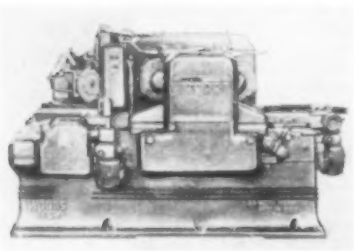
New Equipment

↓ For sawmills . . . . in logging →

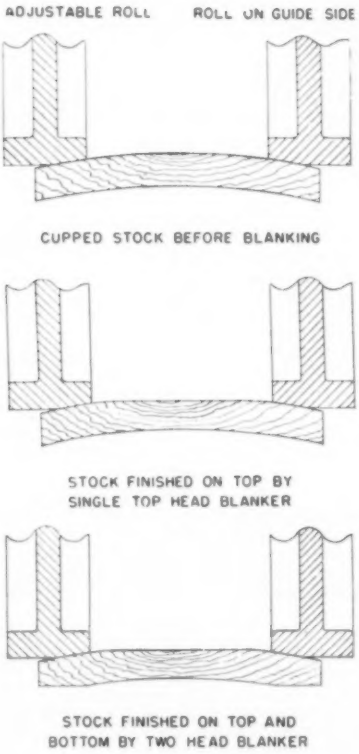


New S. A. Wood Co. Blanker Saves Lumber

• Substantial reduction of splits from running cupped and warped lumber is said to be readily accomplished with the new S. A. Woods blanker (above). For pine mills where large losses have been suffered (when cupped lumber is fed through a planer) because the roll and chipbreaker pressures subject the board to strain resulting in split lumber, Woods developed the blanking machine, placed between the feed table and matcher. It presurfaces the board before it enters the matcher.

The result of this operation gives the customer better lumber and the mill avoids degrading losses and realizes greater production.

The 469M Blanker has built in jointer bar for top and bottom cylinders. Bottom head cylinder can be pulled out for changing knives without disassembling motor. All operating adjustments can be made from the front or working side of the machine. Woods blankers have sectional beveled top feed rolls bearing on top near the edges of cupped lumber.


ADJUSTABLE ROLL
ROLL ON GUIDE SIDE
CUPPED STOCK BEFORE BLANKING
STOCK FINISHED ON TOP BY SINGLE TOP HEAD BLANKER
STOCK FINISHED ON TOP AND BOTTOM BY TWO HEAD BLANKER

The 469M is powered by 3 Woods motors of 30-75 and 100 horsepower.

In addition to the 469M, Woods also produces the 461M and 463M blankers with the same features but for use where less production is required.

TC-12 Euclid Tractor Makes Seattle Debut

• "Here is the world's largest crawler tractor," said Charles Evans, president, Evans Engine and Equipment Co., Inc., Seattle, when the new Euclid TC-12, went on display at the Evans Company in late July.

Many interested loggers and contractors attended the showing. The huge machines, which have undergone three years of testing and proving, are now available for delivery according to Evans.

The TC-12 weighs 70,000 lbs fully equipped and delivers 365 hp. It has two engines, each driving one track through a Torqmatic drive. These separate track drives increase the tractor's maneuverability and provide for maximum stability and traction on rough ground.

Recent performance records quoted by Evans reveal unusual results obtained by the new "Eucs" in road contruction. A fleet of 14 working in dense sand and bad weather moved earth at the rate of 55,000 cu. yds. per day and one million cu. yds. per month.

The Evans organization handles Euclid tractor sales in western Washington. In eastern Washington the dealer is Intermountain Equipment Co., in Oregon, P. L. Crooks and Co., Inc., Portland; and in British Columbia, Dietrich-Collins Equipment Ltd.

News items of special, special interest to master mechanics, plant engineers, shop foremen.

SERVICE RECORDS for wire rope can be kept easily and simply with Leschen's new "Service-Score" system. Basically, the system consists of a sticker which is applied directly to the equipment on which the rope is used. When a new rope is installed, the operator fills out a sticker with pertinent data; upon replacement of the rope, the sticker becomes part of the equipment accounting records for determination of costs, etc. For a starting supply, write to Leschen Wire Rope Division, St. Louis 12, Mo.

NEARLY ALL SHOPS have a hand in the maintenance and overhaul of fire-fighting equipment. A good reference to have on hand is D. B. Smith & Co.'s (421 Main St., Utica 2, N. Y.) new catalog on Indian fire pumps. Indians have been in constant use by fire-fighters for as long as 31 years; they take rough handling and bumping and still perform well.

INDUSTRY'S FIRST power-rotated jib crane with lifting capacities up to 15 tons has just been introduced by R. G. LeTourneau, Inc., 2399 S. Mac Arthur, Longview, Texas. Available in capacities of 6, 7½, 10 and 15 tons, each crane has a 25-foot boom which, when rotated in a full circle, covers 1,965 sq. ft. of floor space. The electric rotating mechanism, electrical hoist and hoist trolley are built to provide extreme precision and fraction-of-an-inch control. This "inching control" is incorporated into all phases of the design for smooth handling and exact spotting. For free, illustrated literature is available from the manufacturer.

To celebrate its first birthday

THE D9 GETS INCREASED HP

—more power for your operation!

320 HP
(FLYWHEEL)

formerly 286 HP

260 HP
(DRAWBAR)

formerly 230 HP

The giant Turbocharged CAT* D9 Tractor, which since its introduction last year has set new performance standards in the field, now packs more power than ever to handle even bigger jobs. Its drawbar capacity has been increased from 230 HP to 260 HP—its flywheel horsepower from 286 to 320!

This increase in power reflects Caterpillar's policy of leadership in action. Combining research with practical field experience, there's constant product improvement to meet your needs for bigger production at lower cost. This policy applies to *every* product in the Caterpillar line—Diesel Engines, Tractors, Motor Graders and Earthmoving Equipment.

Now, with its increased horsepower, you can give the D9 tougher jobs than ever before. To match your requirements, it's available with torque converter or direct drive with oil clutch. For complete details about the more powerful D9, see your Caterpillar Dealer. Name the date—he'll be glad to demonstrate!

Caterpillar Tractor Co., San Francisco, Cal.; Peoria, Ill., U.S.A.

CATERPILLAR*

*Caterpillar and Cat are Registered Trademarks of Caterpillar Tractor Co.

D9—MORE POWERFUL FOR BIGGER PRODUCTION

Yellow Strand
FLATTENED STRAND

PUTS LONGER LIFE MORE SERVICE INTO WIRE ROPE

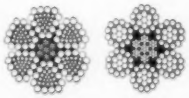
Yellow Strand Flattened Strand Wire Rope is designed to give you greatly increased service and longer life.

Here's why! Laid up in a unique triangular form to provide more contact area, Yellow Strand Flattened Strand gives you a crush-resistant, stronger, heavy-duty wire rope. You get 10% greater strength. There's less friction, less wear on the rope, less wear on sheaves and drums. Many users report up to twice the service of ordinary wire rope, save much of the time and money lost in frequent rope changes.

Get longer life, better performance from your wire rope by specifying Yellow Strand Flattened Strand. Your nearby Broderick & Bascom Distributor will be glad to tell you more about this better wearing, longer lasting product.

COMPARE YELLOW STRAND

Flattened Strand with ordinary (at right) wire rope. In Flattened Strand you have twelve contact points, greater bearing area, smoother surface, less wear. Result: longer service, lower final cost!



Yellow Strand®

Manufacturers of Wire Rope for 80 Years

Broderick & Bascom Rope Co.

655 Edmunds St., Seattle 8, Washington

American Logging Tool Corporation is a subsidiary of Broderick & Bascom Rope Co.